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T. EWELL

American Family Physician

1824

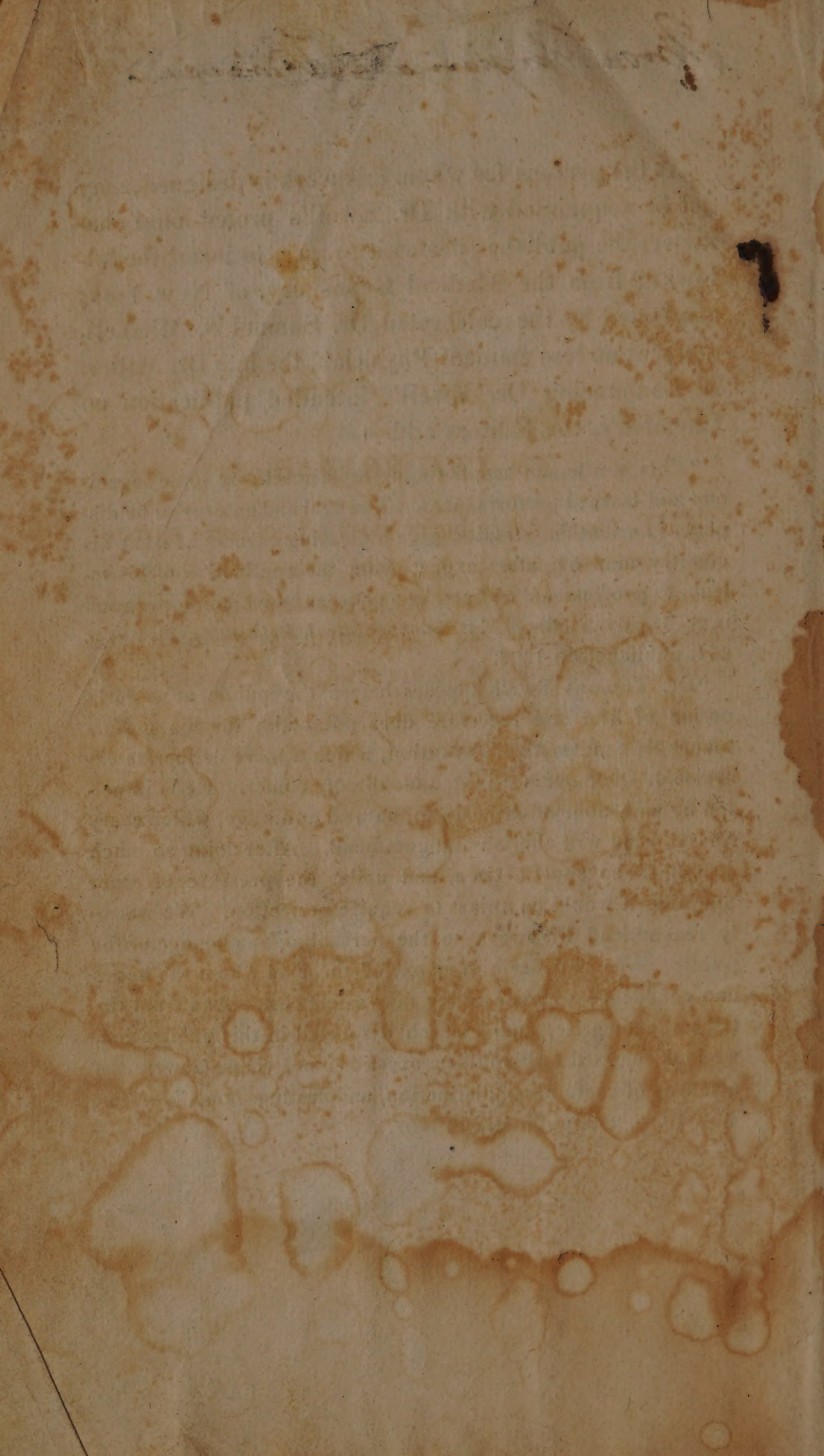
W. S. A.
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Mrs. Virginia Bonner

As the persons for whom this work is designed, may not be acquainted with Dr. Ewell's professional character; the publisher deems it proper, to insert the following from the Medical Repository, of New York; conducted by the celebrated Dr. Samuel S. Mitchell, and that no less eminent Physician, the late Dr. Miller. In announcing Dr. Ewell's intended publication on Chemistry, the Editors add—

"This gentleman has distinguished himself by some ingenious and learned performances. The zeal and enterprise he displays in scientific pursuits, give a pleasing earnest of what his country may hereafter expect from the application of his talents to professional objects, or any other by which public good may be advanced.—[*New York Medical Repository*, Vol. 9, p. 234, published in 1806.

"Dr. Thomas Ewell appears before the public at an early period of life: and therefore does not claim for his performance that maturity of execution, which a more deliberate exercise of his powers would undoubtedly confer. He is impelled by an ardour of enthusiasm, natural at his age, which every liberal mind will cherish and commend. After doing so much so well, in so short a time, and under the pressure of other pursuits, it would be unjust to require perfection. We warmly recommend his work to the perusal and patronage of the public. We consider him as one of those on whom the hopes and confidence of his country may safely rest. And from the talents, enterprise, and research displayed in this publication, we look forward to his future exertions and rising powers, as a source of usefulness, distinction, and lasting fame."—[*Ibid*, Vol. 10, p. 236, published in 1807.



Family physician
J. Ewell

TO THE READER.

THE unavoidable hurry with which some parts of this work were put through the press, and the occasional absence of the author, have caused some errors: among which, the reader is particularly requested to correct the following with his pen, before perusal:—

Page 40, in the 7th line from the bottom, for “scratching on” read *scorching one*, and substitute *is* for *be*. And in the 13th line, for “body” read *lady*.

Page 134, 12th line from bottom, for “vinegar or squills” read *vinegar of squills*.

Page 411, 16th line from bottom, for “opium” read *sugar of lead*.



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DEDICATION.

To Robert Oliver, Esquire, of Baltimore.

DEAR SIR :

WHILE reading the celebrated Essays of the Philosopher Hume, I readily admitted the truth of his doctrine, that the merchant was the most important character on earth; supplying the wants of one nation with the superfluities of another; carrying the articles useless in one hemisphere for the necessities and enjoyments of the other. A view of your conduct in the mercantile world proves the truth of this position; and I could have the concurrent voice of millions who were relieved by your agency in exchanging the commodities of America and Europe, during the late savage wars of the civilized world.

Had you have confined the wealth you accumulated to the aggrandizement of your own family, to the encouragement of men of letters who would celebrate your worth, to the embellishment of the city of your residence; I would only have said that you were, to Baltimore, what Lorenzo de Medici was to Florence. Had you have travelled about, publicly administering relief to the poor and oppressed, who would proclaim your beneficence to the world; I would only have compared you to the benevolent Howard of Britain. But I verily believe, that, in the scale of that goodness which approximates to the "all beauteous mind," you greatly outweigh those distin-

guished characters. For their deeds, the admiration of the world has rendered ample reward, while yours have been done in secret; so, in accordance with the injunction of Christ, insuring the higher blessings of a happy eternity. I am conscious of violating your feelings of delicacy in referring to your charities done in private; but your pain will be lessened by the fact, that the record gives pleasure to another, as it would the many widows and orphans you have relieved, under the injunction of secrecy. For those not knowing you, I will refer only to the case of a once wealthy gentleman reduced to bankruptcy, and then suddenly dying, after being appointed to a lucrative office which restored the hopes of his family. When, under a feigned name, you sent his widow so much money as made her entirely independent; to the general question in Baltimore, "who did it?" was the general answer, "who would or could, but Mr. Oliver?"

The great respect I cherish for you, in common with all who know you; your kindness to the father of my wife, the late Mr. Stoddert,—kindness, on his account, extended to me, with a delicacy I can never forget—have induced me to inscribe this work to you. Although you will be indifferent about the inscription, I know you will rejoice if the book prove serviceable to the afflicted. You have now, as you have often had, my warmest prayers for the continuance of every blessing you can desire on earth, with the interminable joys of the world that is to come.

THOMAS EWELL.

PREFACE.

WHETHER popular treatises on medicine have proved more serviceable or injurious to the public, is a subject which has been variously viewed by some observing men. No one can doubt that conceited medlers have often, from their ill-timed prescriptions, increased the diseases and accelerated the death of many. But it is evident that the injuries have arisen from the injudicious manner in which such instructions have been generally made public. They are not accompanied with those explanations of the principles of medicine, which should properly govern the spirit of inquiry, and the course of practice to be pursued by the reader.—The doses are dictated for the names of diseases, seldom with any regard to the varying state of each varying system. However mortifying to the pride of professional research, it is but too true that no certain remedy has ever been found out for any one complaint; and not only from past experience, but from the nature of the human body, it may with safety be declared none will ever be discovered. This accounts for the innumerable contradictions in the mouths of every body, about the efficacy of particular doses and treatment in stated cases. It should deeply impress on the minds of all men, the folly of prescribing and acting without reference to, or knowledge of, the condition of the patient.—It should constantly be remembered that the adage, “what is one man’s meat, may be another man’s poison,” is not more true than what will cure the same man at one time, may kill him at another.

But, whatever any one may think on this subject, the voice of the people, long since, in England, and very generally in this country, is decidedly in favour of popular treatises respecting the prevention and cure of diseases. And this voice ought long since to have been attended to by the more respectable part of the profession. They appear to have laboured under the erroneous impression that it was beneath their dignity to write for the unlearn-

ed; losing sight of the fact, that no man could be lowered by acting in any serviceable station for the public: that, of whatever nature might be the duties, they should have felt like Plutarch, the pride, not of receiving, but, of giving importance to the occupation.

Defective as have been popular treatises respecting the preservation of health and cure of diseases, it is scarcely credible what numbers are annually disposed of in the United States. Such has been the demand, that the most contemptible productions meet with a ready sale. The dispersed population of the country, rendering it often actually impossible to procure, in proper time, the aid of physicians, makes such works almost indispensably necessary. These, to be most serviceable, should be plain, intelligible, and systematic; shewing medicine, as it ought always to have been shewn, divested of all mystery—needing for its successful application to practice, no extraordinary powers—no leger-de-main—nothing but common sense, with common study and observation.

No physician, with a mind superior to the petty spirit of acquiring importance from the concealment of pretended secrets in the profession, would say otherwise than that he would greatly prefer practising in families, rational—correct—in what medical information they possessed, rather than in those which are ignorant. He feels satisfied that the knowledge of the one will secure a ready observance of his directions; while the ignorance of the other, with its usual attendant, presumption, will be perpetually intruding doubts and countervailing doses. The strongest tendency of correct information on the subject, among families, must be to create diffidence, and consequently an early appeal to physicians of skill. If it were followed by no other advantage than putting an end to applications to impostors, and to using medicines contrary to the indications for cure, its attainment would be justified under circumstances of far greater difficulty.—But when forced to prescribe in the absence of physicians, the prescriptions of the better informed will be made with anxious caution—not with the audacious boldness of the pretender, which has destroyed ten lives for one, which have sunk from the timidity of prescribers. Even unassisted nature is greatly to be preferred to the rudeness and guessing of the ignorant.

Doctor Buchan was the first English author who wrote for the public of his country on medicine. Probably he rendered the British nation more service, by his treatise on domestic medicine, than all the physicians of his age put together. His directions for preserving health are exceedingly judicious; those for the practice of physic are very tolerable, at least, for his own country: but his work is replete with false, absurd, exploded doctrines—with unnecessarily compounded prescriptions, and with many medicines disused, at least, in the United States.

Our latest and greatest improvements in the medic art, arise from the simplification of its theories or doctrines, which has led to a correspondent simplicity in practice. My preceptor in medicine, the late Dr. Rush—a man most dear to the recollections of all who heard his lectures—was the author of the prevailing and increasing simplicity of theory and practice in this country.—That a work on medicine is now wanted for the public, in unison with the doctrines of that great ornament of medical science, cannot be questioned. The last book of the kind published in the United States, is, in its directions for practice, rather better than any preceding; but is excessively incumbered with complicated prescriptions. It is true, that, by the aid of recommendations so easily obtained, and by bestowing praises on so many men, “spirits blue, black, and grey,” it has gone through several editions; notwithstanding some glaring defects in its details—great ignorance of authors—much absurdity of doctrine—and an enormity of price, excluding it from those whose circumstances most require cheap instruction. It will be enough to state of the work, that the fifth edition before me, having on its title page “*greatly improved*,” contains 649 pages, of which 178 are on the art of preserving health; all of which are so full of poetry—stories to amuse school-boys—moral subjects—and such other irrelevant matter, not excepting examples of getting the brains blown out as proof of the health of patriotism,—all chiefly taken from the “Medical Extracts” published by a wild visionary, Dr. Thornton, (this one is of London); that persons would be apt to mistake the object of the part, were they not perpetually reminded of it on the top of the page. It only contains 216 pages relating to diseases: and full 168 about a Materia Medica and Dispensatory, of which probably as many lines would have been sufficient. It

is said to be, and contains internal evidence of its being, the work of two sorts of empiricks : the one in medicine—the other in literature. The first, in opposition to the great Dr. Darwin, who taught that “to think was to theorize, and that the patient who had the best theorist, had the best physician;” perseveres in refusing to learn the doctrines of the medical schools, being well satisfied with his own very successful practice. The other is noted throughout the country as a kind of composer of queer pieces, with some original dashes of non-descript character.—Whether his writings be most of a moral or immoral nature, has not yet been determined : but his name need only be mentioned to excite mourning or merriment at his rapid mutations, in the course of one revolving moon, from preaching to peddling—from praying to piping at parties—from the pulpit of his church to the carry-all for his pamphlets.

Indeed, it is a misfortune of no trivial kind for the literary character of our country, that many works beneath the dignity of criticism receive the unqualified approbation of men of distinction. Scarcely a new book appears, without having tacked to it letters and certificates of its excellence, which would indelibly disgrace those who gave them, were they not screened by their supposed good nature and patriotic desire to give encouragement to American genius. Vanity has certainly its influence with many of them;—the application makes distinction ; compliments are seasonably applied ; and, occasionally, a *douceur* softens the sting of self-condemnation for false encomiums. The case of a book published in New York, called the *American Herbal*, affords remarkable illustration of this. Contemptible and disgraceful as is the book, it is well backed by commendators, whose names I do not mention from respect for their characters and sorrow for their folly. But it is indeed scarcely pardonable that the public should be gulled in matters relating to health and life : and the less so, when effected through the commendable spirit to encourage all useful productions of the country. The true interests of science, and the real utility of all native works of merit, are materially injured by these impositions on the credulity of the public. That patronage which the people could afford to give, is bestowed upon the pushing unworthy, instead of the modest worthy ; and prejudices are thereby created against sub-

sequent productions of Americans—prejudices, most readily transmitted to, and propagated by, our trans-Atlantic enemies.—However attached to—however connected with, the applicants for recommendations, it should never outweigh a regard for the interests of those generously confiding in the integrity of the recommendator. Surely judgment, not feeling—justice, not friendship, should be exercised on such occasions. They should pretend—if they have not the reality—to have something like the spirit of the Consul Brutus, on ordering his rebel sons to execution:

“’Tis love of honour and his country’s good,

“The consul, not the father, sheds the blood.”

For the volume now offered to the public, no recommendations were asked—no approbation wished, but such as each reader, without reference to authority, should find it deserved, after he had followed its directions. And the evidence of this I would only have him shew, by giving the advice to those who know not its utility. It would afford me far greater pleasure to have all the errors erased, and all the better parts strictly attended to by the uninformed, than to have my vanity gratified by the praises of every commendator, commentator, and critic, in the country.

A considerable part of the work is taken from one I published some years since, entitled “Letters to Ladies concerning themselves and children.” About three thousand copies were disposed of; yet as some parts are deemed exceptionable, they are omitted.—Enough, however, it is hoped, is retained to enable women to perform the necessary offices to each other in child-bed, without the interference of men mid-wives in common cases. The part relating to children is retained in its original state, excepting some additions. As no sort of objection has been made to its prescriptions, I trust they will be more generally attended to. Some parts were also taken from my Discourses on Chemistry, published in 1806; and much more is taken from the learned, “Practice of Physic,” by Dr. Thomas, which I have freed from its technical phraseology. No one could suppose that a work of this kind could be much more than a compilation,—yet it does contain something original in matter and manner; but its chief object is to simplify, to render more intelligible to the common reader, the researches of others; to press more

particularly the most simple modes of preserving health and treating diseases; and to enjoin the use of what is in every body's power, rather than foreign articles—obtained with difficulty, often adulterated, and often most injudiciously applied. If the work succeed in these objects, I shall be satisfied to have all its original parts ascribed to those who have published before me. The style is, like that in which I have always written, irregular, containing internal evidence of no study in composition; and the epistolary form was preferred because most familiar.

The reader will find but very few medicines recommended, because in reality very few are ever wanted. Not many physicians of my age have seen, or have had more extensive practice than myself, in public hospitals, and particularly among poor people. And I have no recollection of ever having used more than about fifty articles properly called *PHYSIC*; ten or twenty forming about the ordinary number. The weeds or trash with which the old physicians encumbered their prescriptions, and by which their patients often perished, are now disused by the more respectable part of the profession. To endeavour to afford relief by the judicious administration of a few medicines, is infinitely to be preferred to a resort to the compounded stuff of the apothecary. Indeed, it is only owing to the remains of ancient practice, to the prejudices of the old in its favour, that the shops are still so crowded with a great variety of drugs. As to the cant about American Medicines, Indian Specifics, and such like baits for the vulgar, it may be observed, that there are about ten or fifteen worth preserving; the rest fill space, but give no service, and, like the obsolete words of dictionaries, should be erased from the list of medicines. The noise which is every now and then made by those who take the subject in hand, always reminds me of men placed at some unimportant part of an edifice to give a little support; finding scarcely any thing to do, they amuse themselves with bawling about their *arduous duties*, and fain would make every one believe that on their shoulders rested the great work.

Perhaps some may think it improper to blend an account of the management of women in labour, with the diseases of men. This is done in all works of the kind, and I believe it is indispensably necessary to render them generally useful. For domestic purposes, all medical knowledge should be equally given to men

and women. Females are almost always the first to prescribe in their families; they generally act as attendants on the sick; and they have collected and will continue to collect much useful information for the faculty. On the other hand, their husbands should be their nurses, and equally exercise their abilities in attending to them, even in child-bed. Instead of their remaining in some distant room, grinning at good and groaning at bad reports of the state of their wives, they should follow the example of the Emperor Napoleon, on the accouchment of his Empress Maria—*stay at the bed-side* of their wives, and render all the assistance in their power. They might, at all events, prevent the injudicious interference and destructive violence of meddlers, while their sympathy would alleviate the sorrows of the sufferers.

If there be a country where medical information ought to be diffused, it is in the United States, where professional services are so often dilatory and out of time. If there be a part of the community to whom this knowledge should be confined, it is, assuredly, the female part,—at least concerning themselves and children. Their delicacy of frame, and sensibility of system, leading to speedy termination of disorders, renders this knowledge, by them, not of questionable value, but of most important benefit. Instead of giving articles to the sick in their families, contrary to proper treatment, or withholding some little remedy, equal to the cure in the commencement, they might, without much intellectual exertion, acquire such knowledge as would insure essential service—at least until the arrival of physicians. The more they attend to such knowledge, they will be endeared the more; and be, as they should, alike contributory to the interests and to the pleasures of man.

To ladies of good candid minds, no apology will be necessary for the plain manner in which I have stated some subjects, deemed offensive to converse about, yet important to health. Only those of affectation of feeling, can fancy there is indelicacy in understanding what may save from exposure, disease, and death.—I was pleased with a French lady, who, shortly after her arrival in my neighbourhood, sent in the night for a physician to her child, suddenly taken alarmingly ill: on his entrance, observing her nearly half naked, he was about withdrawing, when the earnest mother exclaimed, in broken English,—“*Sacrez! fool*

Doctor—you let my child die cause I no dressed.” It is certain, that the mind in private, with perfect purity, turns to every point; and instead of seizing at extraordinary means on emergencies, we should deliberately, previously acquire qualifications for acting. I am conscious of pressing into this work several practices, which many of the respectable part of the community are in the habit of observing, without the advice of a physician. Such directions are offered only to those who do not observe them, and the more earnestly to induce those who do, to assist in inculcating them among the negligent and uninformed. To produce the stronger impressions in other cases, I have purposely repeated the same advice.

An essential part of the education of every male and female, in my opinion, should be a general knowledge of the outlines of the nature of their bodies, and the principles of the cure of their disorders. Not for the purpose of practising physic, but to enlarge the mind; to habituate it to think rationally on the subject, and to guard against the innumerable impositions of quacks, as well those who advertise as such, as those of vast boasting experience—deceptious only to the ignorant. Had but the slightest knowledge been cultivated on these points, the world would never have been pestered with the innumerable and preposterous accounts of doses “for thinning the blood, for correcting the bile, for purifying the urine,” and for the like ridiculous objects. It is well known how greatly the science of chemistry has improved since the introduction of proper names; and the same would take place in medicine, if the same accuracy were observed.—Most of the improvements in medicine were discovered by the common people; and how much greater these must have been, had they understood the principles of the science. The persons feeling the disorders must more accurately describe their varying stages, and the effect of medicines, than their attendants can possibly do.

It must be a very contracted or narrow-minded physician, who thinks that the interests of the profession can be injured by diffusing medical knowledge among the common people. The forms of law and of religion are open for the inspection of all; yet there are as many lawyers and priests now, as when those professions were enveloped in mysterious garb. We have every reason

to believe that the result would be similar if a knowledge of medicine were equally diffused. When we see our first physicians, in sickness among themselves and in their families, calling on each other for medical advice, can we doubt that such would be the call of every man who had only the superficial view of the subject which could be derived from reading one or two popular and general views of the subject? In short, the real interests of the profession must be promoted by a diffusion of medical knowledge: for, it will excite a correspondent desire to employ, in sickness, the more intelligent part of the faculty. The sooner it is freed from its lumber of impostors—to whom the door of admission is now so widely opened—the sooner will it get rid of the opprobrium with which it has so long been oppressed: the sooner will merit rise to respectability, independence, and usefulness.



FAMILY PHYSICIAN.

ADDRESS I.

PRESERVATION OF HEALTH.

PART I. RESPECTING INFANTS.

To Mothers.

As the foundation of many of the diseases of the human body is made in infancy, it appears proper to commence my observations for the preservation of health by the treatment of children. It is a subject about which a great variety of notions have been entertained, in consequence of the general failure to attend to the course pointed out by nature, and pursued by all animals below the human. It ought to be well understood by all mothers, to enable them to direct, if not perform, the necessary duties, without a dependance upon ignorant nurses or attendants. The variety of plans recommended, and modes adopted, would fill a volume. Even the stupid would be astonished to observe some kinds of treatment, different from that which they follow, probably of not worse tendency than their own usages. Every midwife and every family appear to have some peculiarity in the treatment of children. Surely the whole of them will have to account for the injuries they have done to babes, if we have ever to account for follies which might have been avoided by the exercise of our natural sense. As an example of such follies, in one of the most intelligent families I have ever seen, the midwife was allowed, at every birth, on first dressing the child, to hold it up by the heels, and give it a shake ! then a moderate dose of brandy and water : this stimulus, aided with sugar and nutmeg, was

poured down the throat! Indeed, almost in every house, I have been struck with the infatuation that prevails on such occasions; something must be given! every thing appearing, but good common sense. Because the business of generation seems so mysterious, something extraordinary is supposed to exist in every department! To break the spell, to put down the preposterous boast of experience among old nurses, and some mothers; to teach the bystanders, that the bodies of the little babes are subject to the same laws as their own, becomes important, from the singular infatuation prevailing on the subject. If the little innocents could speak, they would tell you, they knew no difference between being disordered and destroyed by intended kindness, or by intended neglect.

In the hope that you will yield to reason; with the earnest entreaty, that, for the sake of humanity, you will conform to the course pointed out and confirmed by the most successful practice of the greatest physicians, I proceed to state the directions for the treatment of children which should govern every woman.

When the child is separated from the mother, the utmost care is to be taken to prevent its receiving colds. These colds affect it most seriously, producing inflammations of a destructive kind, in the lungs and bowels. In order to guard against them, the child should be received in a warm flannel, having an opening to breathe, and kept in a warm place, where no cool air can have access, until warm water is procured for washing it. Never use cold water for the purpose, and nothing but warm water. By gently washing it in warm water, the matter adhering to the skin will come off, if not the first, the succeeding day. It is to be kept in the water a few minutes, undergoing this gentle washing, and to have a linen rag put on its navel—a burnt rag, or any charcoal, might be first applied to lessen the offensive smell of the part that comes off.—Generally there is a sore, made by the nutmeg and other trash foolishly applied; there will be none, if the parts are dressed with simple sweet oil, or hog's lard, after the separation of the cord, which takes place about the sixth day; no irritating matter, nothing but something mild, is wanted to exclude the air from the surface. After a linen rag is applied to the navel, a band is to be put around the belly, not tight by any means, as compression of the belly will be injurious. The next object is, to dress the

child : no clout is necessary to be put on ; the child can't turn, and simply putting a cloth under is sufficient for a month ; its clothes should be of linen—no pins to secure them, but strings ; never allow its limbs to be confined ; the more it can use every part, the sooner will it strengthen. Under no circumstances, should any thing be applied that presses on any part. A tight bandage will cause the absorption of the hardest parts of adults ; and how much more destructive to children ? The best article, for some time, is simply as was put on our Saviour, a swaddling cloth ; and afterwards, instead of keeping the child screaming, as is universally done, with the ridiculous pieces of clothing—shirts, petticoats, and the like evidences of folly ; let it have nothing but one pelisse, as thick or as thin as the season requires, which can be put on in an instant, and made as fine as the parent can afford for the gratification of vanity.

The child being dressed, it requires nothing more than to be laid down, *level*, to repose quietly. From the fifth to the tenth hour after birth, it should always be applied to the breast of the mother. It wants nothing else ; the milk is its physic, and its best nourishment. You will observe the redness of the skin, sometimes blisters, and extreme irritability in every part. These are symptoms of its inflammatory state ; and these, exclusive of experience, proclaim the folly of giving it other stimulants, drinks, or mixtures, to add to the too much excited action of its body. It wants nothing but its mother's milk, for which it should be applied to the breast in the time above directed. The first discharge from the breast will, in all probability, open its bowels in sufficient time. If the bowels be not opened the second day, pushing gently, half an inch up the fundament, a small quill covered with an oiled rag, will produce the evacuation ; in case of failure, a tea-spoonful of sweet oil poured down its throat, to be repeated in three hours, if the first be not successful ; lastly, for continued failure, a tea-spoonful of castor-oil, or a little manna, might be given on the third day. I never knew the introduction of the pipe, as above advised, to fail in producing an evacuation. It is always to be preferred to giving medicine.

It will not be necessary to refer to the medical part, the treatment of the small blisters, swellings, and inflammations, which are so apt to appear on the skin, and parts compressed at birth.

The cure is to be effected, by not touching them; some prefer puncturing the blister with a sharp needle, so as to let out the water, without letting in air;—a cold, wet rag, applied for a few minutes, will expedite the dispersion of the swellings. For other complaints, I refer to the medical treatment.

The rules for nourishing children are, never for sixty or seventy days, give any thing but the mother's milk; in the beginning, give the breast every three or four hours. Some have urged to begin with establishing hours for this supply; but they mistake. The habit is best acquired weeks after. In the womb its body was slowly and constantly nourished; and we should imitate, by having in its stomach always a little, never much at a time. I suppose the means I shall hereafter recommend for exciting the breasts, will be used to insure the supply of milk. But if accidental causes should render it impossible for the mother to give milk, then, as the lesser evil, some woman should be procured who can yield the supply. Giving infants other food, has done incredible mischief. No other animal requires aught but the mother's milk; yet there is scarcely a midwife or nurse in the country, who is not for pouring down the child's throat, soon after its birth, some of their mixtures. There is not one of these compounds that does good. They pretend they give very little; then the very little can be of no service—never yielding a fiftieth part of the nourishment taken away by its acting as irritating substances in the bowels. Instead of giving up the early treatment of children to such attendants, there is stronger reason than in subsequent advanced stages, for the mothers and friends to exert all their senses on the subject. Follow nature; I cannot impress on you too much. Nature never intended, that, for your child's accommodation at birth, a ship should have to sail to the East Indies for nutmegs, and another to the West Indies for spirit and sugar, to make the almost universal doses given to children. Nature could hardly have provided against such abominable outrage on its laws: to add to this sugar and water, and nutmeg, the intoxicating liquors, is shameful in the extreme. If there be not enough milk in the mother's breast, and another nurse cannot be had, then give the like—cow's milk newly drawn, mixed one-third with warm water, with very little, if any, sugar. After sixty or seventy days at least, the child may then properly

have its diet changed : first, it is best for some other woman occasionally to suckle it, then the mixture above mentioned, and then milk alone, until all the common articles of our diet may be administered in gradual succession.

The periods of feeding the child should be regulated about this time ; beginning to let it suck very late at night and early in the morning. After a week or two, the breasts may well be withheld during the night, by degrees reducing the times of feeding to four or five times a day. It is so important, that I would impress it an hundred times—most gradually make every change in the child's diet. Begin with the mildest articles, and but in small quantities ; the article you begin with, persevere in its use, unless powerful reasons prevent, until the child is habituated to it. I repeat the remark, one sound healthy article is nearly as good as another. Boiled milk diluted, and bread, or arrow root, or sago, are excellent articles to commence with ; weeks after, soups and boiled meats may be substituted.

On the subject of raising children without the breast, Dr. Burns says, “ a mixture of cow's milk, water and sugar, has been used as a substitute for breast milk. But more advantage will be derived, by adding to cow's milk, a third part of new made whey, (not made by wine,) with a sixth part of sweet cream and a little sugar. Whey, with the addition of cream, and very little sugar, without milk, may also be employed.” Children have been reared tolerably well on these mixtures, without the breast, though never as well without as with it ; which is a strong reason why wet nurses should be got if possible. Dr. Moss says, that an excellent substitute for breast milk is the milk of a cow, (the cow should never be changed,) drawn whenever wanted, and mixed with one-third warm water, *not to be boiled*. The addition of sugar is not needed ; better without any, but if any, let it be but little, as the stimulus of the sugar is too strong for the bowels, and often produces disease. It is more incumbent not to change the diet of children brought up at the spoon, than those at the breast, as their bowels are very irritable. Whenever their stools become very offensive, you may rely upon it that they are diseased ; in nine times out of ten, from something defective in their diet, often from *quantity* as quality. Whenever any diet disagrees with

them, it should be discontinued, and a physician consulted for directions.

In feeding with the spoon, care should be taken not to feed until the child ceases to eat; a little often is better than much at once; the jaws tire while sucking, but not so much in taking from the spoon.

With respect to the time of moving the child, Dr. Moss remarks, that warmth and rest are indispensably necessary for infants at an early age. "In the first week, it should not be carried out of the room; not till the end of the second week, should it be carried out—and then only to adjoining apartments. About this time, the child, if it do not appear disagreeable to it, may have its skin rubbed gently with the hand, its legs and arms stretched; it may be handled once or twice a day, for a little time, on the nurse's knee, near the fire. During the third week, the time of the child's being up and out of bed may be lengthened; and after this, its other exercises are to be conducted by degrees. In the beginning, great caution should be observed in carrying the child into strong light, and a damp air."

Many women feel considerable anxiety on the subject of the influence of their diet on their children's health, especially in early infancy. They fancy that the physic they take enters into their milk, and operates on the child as on themselves; but this is a mistake;—and it is folly in a mother to swallow medicines for the purpose of affecting the child. Now it is a truth, that whatever affects the stomach of the mother, affects her milk; and whenever changes in the milk are made, they affect the child, not by any means, however, always in the manner they operate on the mother. If the mother change her diet, or drink, or take any medicine, or get in a violent rage, or have a fever, unless the child be unusually healthy, it will be affected by the alteration wrought in the milk: generally purging will be excited, just as it will be, if any foreign, irritating substance is given to the child. From this an important inference should be drawn by mothers: they should learn to adhere to one diet, to be regular in their habits, to preserve their tempers while their children are at the breast; at least until their constitutions are well improved. Those who have delicate children, should of course pay

the more attention to this subject. I will only add, the best milk is given by those females who preserve their health by simple diet, taking only the stimulus of exercise and pure air.

There is no treatment of children found so certainly beneficial, as washing them all over every morning in a tub of warm water, from the day of their birth, till they have passed two years of age. It is a luxury every woman can afford for her child; indeed, they will find economy in its use. The free motion of its limbs in water, contributes to its health. The circulation of its system is greater than ours, and therefore in proportion it has more excretions. These excretions are more apt to become acrid and irritating than those of grown persons. It is therefore most important to immerse them daily in warm water, that the surface of their bodies may be kept clean. Moreover, the warm water tends to equalize the action of all parts of their systems, on which equalization depends their health. I never knew children subject to irruptions, nor one-tenth so sickly, when daily made to sit, immersed from neck to toe, in warm water, as others under the same circumstances, excepting the washing. If you be a fond mother, half of either reason I have given will induce you to attend to the prescription. You will be delighted at witnessing the pleasure the child shows in the bath, and much more at the consequent exemption from disease. If you be a friend to humanity, most earnestly entreat every mother, the poor and the ignorant, to adopt the practice; remind them of the facility of warming water with hot stones or irons, and many will be the lives saved. Nothing but severe illness, should ever postpone the daily operation.

Some persons have recommended the bathing children in cold water, but the shock is too severe; it has been the death of many. Nevertheless, many have improved under its operation. I know that the warm bath is best, and I cannot see the least reason for using the cold, excepting the incorrigible laziness of those who neglect to warm the water. The advantages of a momentary shock to the skin, are abundantly derived from exposure to cool air, during the wiping. The astonishing improvement I have seen so many interesting little children derive from its introduction, for which important practice much is due to the zeal and benevolence of Doctor Buchan, induces me earnestly to beseech

every mother to let hereafter a tub of warm water be the first article brought to her children in the morning.

The question of the propriety of rocking children in cradles, has been considerably discussed; many doctors urging that the rolling motion stupefies: all nurses urging the great convenience of the practice. I am certain, that the gentle rocking of a cradle, at a proper time, will not be injurious. It should always be most gentle, never allowed by its violence to drown the cries of the child; never to be done when the child is diseased. It is indispensable for the cure of children's complaints, as well as for our own, that they should have rest. When they cry from the pains of disorders, rocking them is excessively injurious; and unless the nurse is cautioned and bound not to rock a child crying from pain, there had better be no cradles. But these cradles probably never did as much harm as shaking the child on the knee, in the way that is so universal, even in the earliest days of infancy. The agitation, most certainly in the state in which the brain then is, must have aided in impairing the faculties of so many. An invariable rule should be with mothers, never to let a child cry without examining and turning it over to rest on another part.

The next subject is, the proper place for children to sleep in cold seasons. There is a strong feeling to take the child in the bed, although many have been destroyed by the intended kindness. Yet I will assert, that not one has lost its life by the practice, for five that have died by the diseases brought on by the coldness and dampness of the cradle. There can be no doubt, that a great cause of the fatality among children, is their suffering while in the cradle alone. We, in our beds, frequently are unable to preserve our warmth; and no wonder the extremities of children are so often found cold. All mothers in a natural state sleep with their young; the heat of their bodies appears essential for keeping up that of their offspring. Excepting among hogs, I never heard of their being suffocated by the bodies of their parents; and why should not women be able to guard against such a misfortune?—A variety of expedients could be adopted to have the warmth of the mother, without endangering the life of the child. The most simple, practicable plan, which presents itself to my mind, is, to have a small plank, but little larger than the child, its edges surrounded with a few pegs, eight or ten inches high, and the little

bed to be put in it. An advantage really worth attending to, would be derived by having the little bed of the child stuffed with powdered charcoal. This will correct the disgusting smell of the urine, which makes so many beds disagreeable, often driving the husbands to seek purer quarters. Unimportant as this may appear to some habituated to the stench of stale urine, I feel confident that it would save many from adulterous practices, and contribute to the health of children. Any contrivance may be made to prevent the turning over to the mother; the pegs will prevent her turning over on it. Those who can afford it, can have the contrivance made of as fine materials as they please. The expedient will answer for the rich and poor, the mistress and the slave; the necessary expense not being ten cents, I would earnestly entreat every mother desirous of giving comfort to her child, to adopt the plan. It will save children from many diseases, as well as pains; and it will be a convenience to mothers to have them so near, for the purpose of giving the breast, and applying clean cloths.

Next I have to request your attention to the daily evacuation of your children's bowels. If there be no improper cramming of the child, no sickness; once or twice every day, at stated hours, will be sufficient. The advantages derived from the cleanliness of the habit, should induce every nurse to attend to it. It will supersede the use of the clout in almost every case: a great relief to mother and child. The simplicity of the modes of bringing on the habit, is such, that I feel almost tempted to advise giving a grain or two of some powder along with it, that you might think the dose did the business. But I shall rely on your better sense. The means of effecting this regularity of habit in the child, are precisely the same as in our own case. Turn up its posteriors to cold air every day at the same hour; let nothing prevent; if necessary, twice a day, morning and night: at first introduce an oiled rag around a small quill; some months after, a piece of soap may be substituted; keep it there till the evacuation is made.—After a little perseverance, (if you will not forget once or twice, and let the habit be lost,) the child will daily discharge its excrement at the same hour. You may rely upon the success of this treatment in every case, and at all times, except when disease is existing. It will greatly contribute to the health of the child, by

preventing the retention of offensive matter in its bowels, which it sometimes forgets to evacuate. Moreover, children are often afraid to evacuate, because, being great observers of the countenance, they see the displeasure and uneasy feelings frequently excited at the ill-timed deposit. They retain till they can retain no longer, and often show sorrow, not at the bad habit disordering their delicate bodies, but that at last they are obliged to evacuate. It is the nurse, not the child, that in all cases should be condemned.

I have now to urge for your consideration, the proper use of air for children. They, in proportion to their bodies, require more and purer air than older persons. A confined air is more pestiferous to them than the most fatal epidemics. The difference in the deaths and diseases of town and country children, establish this beyond doubt. Probably an occasional breathing of a pure atmosphere, is more injurious than habitual confinement to one that is defective. Children in very tight houses are never so healthy as those in open buildings: their diseases are more violent; they feel every change of weather. It is equally remarkable, that, although they be more healthy in houses of loose joints, in which the air can penetrate, than in those that more effectually exclude the air, they never do well, exposed to cold and currents of wind.—They require an abundance of pure air, and their bodies to be kept warm. Indeed, it seems incomprehensible how so many children have survived confinement to the air of close rooms, corrupted by their parents, companions, and servants; a crowd which may frequently be found in the rooms of some very wealthy persons, ridiculously afraid to trust their children out of their bed-rooms. All parents should bear in mind, that their children cannot enjoy perfect health, without having good, wholesome air for their lungs, and warm clothing for their bodies.—There should be never more than three to sleep in a room of less than twelve feet square, with a door, chimney, and loose jointed window.

Warm clothing in cold weather, is nearly as essential for the health of children as fresh air; comfortable, not oppressive clothing. Let their clothes be changed to suit, not only the varying seasons, but the changes in the day, in spring and fall. It is at these times they are most subject to disease; therefore clothing to suit the day is almost more essential than in the coldest sea-

sons. The fantastic manner in which many mothers dress their children—arms and breasts exposed, in cold seasons—betrays as much want of sense, as ridiculous vanity. This excessive folly is sometimes defended, with the pretence of *hardening* their children. Just as the old generals prepared their soldiers for fatigues they might never encounter; killing about the half in hardening. There can be but little doubt that a great number of children have been sacrificed to such schemes of hardening. Better commanders now reserve their men until the time comes for exposure, and so should our better mothers do. You will misunderstand me, if you infer that I wish parents to bring up their children with oppressive care and kindness; destroying them with daily confinement to close rooms, only taking exercise by rules, and with covering enough to weigh them down. There is a medium in all things, to be settled by exercising common sense, without a bias to any particular system. It is by this that we may all ascertain the best method for rearing children, neither with excessive care or neglect. Free exercise in open air, with comfortable clothing for all parts of the body; a frequent, but not a long indulgence in the plays of childhood, while the weather is bad, are outlines of management, which all of sound mind must approve. We must not deny the propriety of the course, if, in a few cases, we see exceptions to its success. Tendencies to disease are sometimes produced by causes very likely to escape our observation. A too confined or crowded room to sleep in, eating too much of an unusual food, for example, have frequently produced the complaint, that the over careful have ascribed to their children's exposure. Exposure to rains, and more especially exposure to a hot sun, have had great influence in making so many excessively particular about their offspring. They restrain the proper playful pursuits of children, because other children have suffered—and often from what the beasts of the field take very great care to guard against, that is, exposure to rains, and most to a summer's sun. That children in our country, in the months of June, July, August, and September, survive two hours' exposure to the rays of the sun, which so frequently kill the most vigorous men in a few hours, is to me unaccountable; and I could not believe that they do it without perceptible injury, but that I have seen them escape. Rely not, affectionate mothers, on such escapes!

Keep your children from exposure to rains, and particularly a hot sun, as you would from a raging fire, or pestilential atmosphere; often warn them of the dangers in the beginning, and they will habitually shun them: Let all of them play as much as they desire in shades, uncontrolled; with clothing suitable for the day, and with pure air for their respiration; and by such means you will save millions of your offspring from premature disease and death.

Another important point I would press parents to observe, is, a never varying simplicity of diet for their children, at least in the early stages of life, aided by great regularity in eating, and indeed in all other habits. The numerous specimens we daily see of dis-tempered, distorted people, owe their existence to parents disregarding such regularity. Strange as it may appear, 'tis selfishness, 'tis extreme of weakness, that has led to these pernicious practices to the contrary. Children are perpetually inclined to be doing something: when not at play, they refer to eating; and the father and mother find more pleasure in giving than in restraining. They but seldom encounter the labour of thinking of consequences; and the child is not only allowed to eat until distension becomes painful, but it takes sometimes the most stimulating food; frequently is excited by compounds—most generally with that favourite article, found in so many houses, commonly called CAKE. This abominable compound, first used only for the purpose of stimulating the worn-out stomachs of the intemperate, has disordered and destroyed millions of children. Either of its component parts, separately taken, is healthy; it is when compounded, that they are pernicious. The appetite for it, is artificial; and as children have the strongest relish for the most simple food, when confined to it, (as for the mother's milk,) it is infinitely better that they should never have such excitements.—It ought not to be allowed, if for no other reason, than the uneasy feeling many other children have, in not partaking of an article deemed so good. I have no hesitation in declaring that its use is as pernicious as dram-drinking; that no child under five years, ever ate it without injury visible or secret to its constitution. You may perceive how powerfully the compound operates, by having two children under the same circumstances, both accustomed to simple diet; give the one at night cake to eat, none to

the other; watch the sleeping: and the starts, the restlessness, if not the screams, will proclaim which took the disordering compound. Sweetened light bread is the substitute, but no substitute is wanted; the more simple, the more agreeable will be the diet.

Children ought never to be allowed to eat too much: the means of preventing such gluttony, is to give them some light article to eat, before their regular meals, which prevents that eagerness to eat, which naturally leads to excess. They should always, the moment they awake, take a little food. In giving them new articles of diet, the commencement should be with small quantities, to habituate the stomach to its digestion. It is excesses, compounds, and irregularities in diet, which have produced so many small persons. A return to the simple diet of the ancients, would be followed by a restoration of the size of our species.

The time for weaning children, generally the critical time of teething, is next to be noticed. This varies in every country; indeed in each family so considerably, that it is impossible to give any thing satisfactory on the subject. The general rules are, by all means to habituate the child for weeks before to a different diet; by no means suddenly to withhold the breast. Next, the time for weaning should always be when the child is in a healthy state. The substitute for its diet, ought at first to be that which was recommended for children in early infancy—the mildest articles. Children have done well when weaned at the fourth month; but unless some disability of the mother renders it improper, it is best not to deprive them of the breast before the ninth month. When the parents are of small stature, it is best to keep the child longest at the breast, as in all other animals it appears to have the effect of increasing their size. Judging from comparison, and from a few observations, I have no doubt such a course, not destroyed by stimulating diet, or drinks, or premature venery, would have the effect of greatly enlarging our puny breed of men and women.

The next subject for consideration is the teething of children; an operation which has probably caused the death of more children than any one to which they are liable; and all from the ignorance and fears of the attendants, often supported by the conceits of their physicians. The important connection between the mouth and all parts of the body, will hereafter be particularly exempli-

fied. It is not surprising, that such great variety of diseases should follow the irritation in the mouth during teething.

The time of cutting the first teeth is irregular—from the third to the fifteenth month, generally between the seventh and ninth. There are two stages in this operation; the first is about the third or fourth month, marked by slavering, when the child delights in having its gums rubbed; sometimes they have fevers, fretfulness, and diseases of the bowels. The second stage is about the seventh month, when the teeth are penetrating the gums. The gum is swelled, and too painful to allow the slightest touch; as the tooth is about to appear, a white blister appears over it.

Children have often most difficulty in cutting the first teeth, which, if they come in proper order, are the two lower front teeth, then the two above them; but when the usual time of cutting has past, the two upper teeth will sometimes appear first, then the two eye teeth; but the appearance is very irregular, and not material. About the seventh year, these teeth give place to new teeth. In order to prevent the diseases so often attendant upon teething, it is necessary to watch the first symptoms of disease, and invariably to scarify or cut the gum, at the same time giving some laxative medicine, and lessening the diet. In the first stage, it may be difficult to discover which gum ought to be cut, but when disease is violent, it is best to cut all over the gums in front. Whenever the gums are swelled, it is then of the utmost importance to cut them freely; a common pen-knife, or thumb lancet, will answer, and any mother's or father's hands, just as well as a surgeon's. The first object is to draw blood from the part; then, if the symptoms continue bad, to cut down to the top of the tooth. There is no danger of hurting the child; indeed, such is the relief derived, that children often open their mouths for the operation. Their gums are very insensible, excepting when, from neglect to scarify them, they are inflamed.—Nor need you be afraid of hurting the teeth, as they ascend, covered with their enamel.

A ridiculous idea prevailed among physicians for some time, that cutting the gum gave present relief, at the expense of future pain; that the scar formed when the wound healed, was more difficult of penetration by the teeth. To this day, some are ignorant enough to believe in the doctrine, and refrain from relieving the

sufferers, as though their gums could not be cut every day, if necessary, even were their notions true. But the fact is the reverse. All new formed parts are more easily destroyed than old; they more readily dissolve, or disappear, as instanced in the cicatrix, or new formed flesh of old sores. To cut a gum over a tooth which has not appeared to rise, is therefore rather of service than injury to its future passage. One of the greatest surgeons who ever lived, Mr. John Hunter, of London, writes, "it often happens, particularly when the operation of cutting the gums is performed early in the disease, that the gum will re-unite over the teeth; in which case, the same symptoms will be produced, and they must be removed by the same method. I have performed the operation above ten times upon the same teeth, when the disease had recurred so often, and every time with the removal of the symptoms."

I do sincerely wish I could prevail on all mothers or fathers to undertake this gum lancing. Nothing is more simple, or more easily performed; it never does harm, and it would so much lessen the sufferings of the little children, that I should be happy in the recollection. It is best for the child to cry when lancing the gum, as the mouth is then most opened, and the cut may be directly on the top of the tooth. In some cases, where there is reason to believe the teeth to be advancing, yet no visible sign, great relief has been obtained by cutting down to where the tooth should be; thereby letting out blood, with probably some little irritating matter, producing violent action in the system. If you will not do it yourselves, I beseech you to insist on your physician frequently performing the operation.

I have not dwelt upon the diseases incident to teething, because they are so numerous, and vary almost in every child. The most common are, affections of the bowels and convulsions. When these or other violent complaints appear, or are apprehended, the child should be blooded, by cupping about the lower extremities, and purges given, with the *warm bath*, (not hot,) to take off the irritation. The gums, of course, to be freely lanced. The rule I have adopted, and would prescribe to all, is, whatever may be the inflammatory affection of the child, if it have slavered freely, before, or if it be the time for the teeth to appear, by all means to cut the gums, so that they shall bleed freely.

All parents should be apprised of the importance of teaching their children how to command their own minds in early life.—The numerous ungovernable spirits we see daily in society, originate from the folly of neglecting this important object. I make the assertion in the fullest confidence of its truth—that there is no child which cannot be trained, and with but little trouble, to any habits of self-command. It only requires a good beginning.—The first correct practice is to prevent their getting into the habit of crying; to make them suppress their cries, at least loud crying; which is not only horribly annoying to others, but calculated to produce convulsions in the child. Whenever they are heard to cry, inquiry should be made into the cause, and their attention directed to some other point. A little perseverance in the beginning, will soon be crowned with success; and it is indeed worth a long attention. The ability to suppress cries, will be followed by ability to command other feelings. The example of submission in the eldest child, will have great influence over the younger; so much, that half the discipline will suffice with them. Children so brought up, do not require or receive a tenth part of the correction of those punished irregularly, or, as it is termed, by fits and starts. The practice I have pursued with my children has been, to begin early with punishment; never to suffer disobedience in the slightest degree; never to withhold one proper gratification they desired; never to allow one that was improper; and the consequence has been, that no children less frequently require punishment.

In concluding this, I feel some pain at the apprehension, that I have not said enough to induce a strict adherence to the practices recommended. I knew them to be so judicious, that I felt as if argument were useless. The subject is those of whom our Christ declared, “of such is the kingdom of Heaven!” If you feel as parents, if you have souls to partake of the heaven of doing good to innocence, you will not require long arguments to adopt practices promotive of the health of children. I ask—I pray you—if I have not urged sufficiently to induce you to do it, then, as a favour, as a kind compliance, in return for the wish I have to serve, immediately prescribe—

1. That in cold weather, all little babes shall sleep with their mothers or nurses, in the safe manner pointed out.

2. That until their constitutions are formed, their diet shall be simple, and of the same kind.
3. That they shall be kept warmly clothed; never allowed to sleep in a foul, close air; nor with windows open.
4. That every morning, from birth, for at least two or three years, they shall be put in a tub of warm water and washed.
5. That they shall be, as far as practicable, got in the habit of evacuating their bowels at the same hour.
6. Lastly, that whenever their gums appear in the least inflamed, you will cut, or will have them freely and often cut.

PART II.

Preservation of Health after Infancy.

HAVING concluded the observations I had to make respecting the treatment of infants, I proceed to consider the best means of preserving health, subsequent to our first stage of existence; and as there is nothing of more importance for our lives than the air we breathe, it is proper to commence with our

ATMOSPHERE.

We are surrounded by an invisible fluid, which but a little observation teaches us is subject to great variations in its qualities perceptible to our senses, as well as those which are not ascertainable but by particular investigation. These last relate to its composition of four different ingredients, which will be stated after the sensible qualities of COLD, HOT, DRY, and DAMP AIR, are considered.

It will be unnecessary for me to quote authorities to shew you, that man can be found in a tolerable state of existence in almost the very extremes of these different states of air: in the almost

eternally frozen regions of the North; under the perpendicular rays of a burning sun, near the equator, where the heat seems to threaten a general conflagration; in countries where it never rains, as in parts of Africa; and in others, where it so rains as to endanger a general deluge. But, notwithstanding the existence of man in such opposite states, he enjoys his most perfect health and greatest longevity in the temperate and regular climates; where he suffers only in proportion to the vicissitudes, to the changes from one state to another.

There are probably but few countries where changes in the air are more rapid, than in the United States. Seldom does a month pass over, without fires being either a few hours comfortable, or uncomfortable: the air in as little time becoming very damp, when it was very dry. Nothing but the active habits of our people prevent their suffering severely from these remarkable changes. They are perpetually under some strong excitement—removing, engaging in new enterprizes, and contending about politics, religion and law. Yet during our most variable seasons, winter and spring, diseases are very frequent, and very violent.—And, for the preservation of health, every one should, at these times, take particular care to fortify himself against the effect of the changes: at least, the aged, the infirm and delicate, cannot act with too much caution. In the order in which I have stated the sensible qualities of the air, I shall make some remarks on each state, with such digressions as may appear to be useful and proper on the occasion: And, first, of—

COLD AIR.

It is proper to remark here, that cold means nothing but an absence of heat; that it is an expression used in compliance with custom: that it is a term of relative meaning: that what is cold to one man, may feel warm to another; and also to the same man at different times; the sensation depending on the condition of the atmosphere to which he had been exposed previously. The only rule by which we can judge for ourselves, is derived from our feelings: and these ought much more to be attended to, in the accommodation of ourselves to the state of the air, than they generally are. It is an old remark, that ten persons perish from the

excess of cold, to one from the excess of heat. In hot countries, the luxurious change their clothing to suit each part of the day: surely it is more incumbent on us to take more pains to vary the covering of our bodies to suit the changes in the seasons. Some wear the same clothing during all seasons; forgetting that the system, becoming habituated to it, derives but little benefit in change of weather. Thus the man who wears one pair of woollen stockings in summer, will as certainly need two pair in the winter, as he who wore cotton will require one pair of woollen; and so on of all parts of the dress.

The primary object of clothing is, to retain the heat that is given out from the body: therefore the best non-conductors of heat, must afford the best protection against cold weather. Furs, feathers, wool, and cotton, make the best resistance to the passage of heat, and are properly selected for winter clothing; while for the opposite reason, silks and thread clothing are the best for the summer.

Having here introduced the subject of dress, a few further remarks may not be amiss. It is to be lamented that it was ever made so as to confine the secretions of parts which should be kept cool by evaporation of their moisture. The ancient dress of the Romans, which is supposed to be that of the modern highlanders of Scotland, had an essential advantage over ours; as, like the petticoats of women and children, it favours the free ventilation of the parts below the waist—exempting them from many of the complaints in those parts, arising from the confinement of the secretions by our tight clothes.

But above all, in dressing, it should be remembered, never to let the clothes unequally press or tightly bind any one part.—Such is the effect of compression on the body, that when continued, it will cause the absorption of the flesh, and even of the bones. It is by some people resorted to, in order to compress the skull, to make the feet small and the hands and arms tapering.—Under any circumstances, it impedes the circulation of the part, and eventuates in more or less disease. Many misshapen legs owe their distortion to garters below the knee; and many women have the misfortune of not being able to suckle their children, from the compression of their nipples and breasts in early life.

It will be useless for me to offer any advice about the forms of the exterior dress of the rich, as they will follow the fashions. However, of the interior I have something very important to urge to females: and I beseech their attention and observance, as annually it will save thousands and thousands of them from the most painful diseases and premature death, which not only afflict them, but, from anxiety and sorrow, hurry to the tomb their aged parents.

A leading object of dress with females is surely to excite admiration; and it is unquestionably one of the most agreeable dispositions animating the bosom of "Heaven's last best gift to man." But it is assuredly too dearly gratified at the expence of health, life, and affliction to their friends and protectors:—it is worse than folly to obtain it imperfectly by destructive means, when it can be perfectly had by those which are pleasant as well as safe. The connection of health and beauty is inseparable; and as delicacy in appearance adds to the last, it can be obtained if all ladies will dress as many of the elder do, to get rid of rheumatic and other pains; and what most of the women of the world, and the most *beautiful* part too, are in the habit of doing: I mean wear next to their skin waistcoats and drawers of flannel or stocking-net. By being made to fit tight, they will always feel comfortably warm, and keep up an equal circulation of the blood on the surface of the body; giving to the skin its most beautiful hue. I shall make no answer to the preposterous reflection about wearing breeches; but will repeat the remark of a most respectable body of Philadelphia—that no woman of proper delicacy, knowing her liability to accidents, would ever be found from home without such a Grecian or Turkish dress under her upper garments. The safety with which the most dashing and fashionable belles, with such covering on the skin, could venture out at mid-night; the exemption from the necessity of rushing to fires, scratching on half their bodies, while the other be shivering, ought to induce them to follow the advice, exclusive of the beauty it would give to their faces. In addition to the general healthy, rosy appearance, it would exempt them from those bumps, or pimples, disfiguring so many of their foreheads, by exciting an action in their lower extremities—as men's clothes do—and thereby relieving the determination of that blood to the head,

which is the cause of them. Could all parents be prevailed on to enforce the observance of this advice by their daughters, it would require no foresight to pronounce it would hereafter save them many a pound, and many a pang.

WARMING THE BODY.

As next of importance, I have to impress on you the manner of getting warm after exposure to cold. It is known to most of the common people, that when their hands and feet have been very cold, they only prevented their aching by a gradual approach to fire, after washing them in snow or cold water. Now, although our lungs are insensible to cold, or even to the cut of a knife, they are far more susceptible of diseased action than any part of the body. Hence no one escapes occasional colds, catarrhal affections, and millions sink under consumptions. Let all, then, who wish to escape such afflictions, imitate the practice of those who understand the proper manner of warming their extremities:—let them more gradually warm their far more important lungs.—When exposed to cold air, the approach to a warm room should be very slow: first entering a room without fire, and some time after proceeding to one better warmed; taking care not to hold the face near or towards the chimney for a considerable time. And with equal caution, they should avoid all stimulants, as spirit, wines, &c.; as they, acting upon the accumulated powers of the system, would eventuate in increasing action to a degree of disease.

The general method of warming our houses, is very improper. The warmth from stoves, and in all tight rooms, being confined, is necessarily injurious; and large fires in rooms more open, are very unpleasant, from the unequal application of heat, although they are more healthy. The air from cellars being warm, it should be obtained from thence. We ought to adopt the plan very common in Europe, and practised in many of the houses of our cities; it is to have the air heated by an oven, and conducted by pipes where it is wanted in different parts of the house.—This conveys a constant supply of fresh air, with an equal, regular warmth; and is, moreover, very economical. I have often wished some such plan were pursued to warm the poor of

our cities: conducting comfortable fresh air in tubes, according to the manner in which water is carried to all parts of our cities, from one reservoir. It would tend to lessen the diseases of the poor; and never was a truth better ascertained, than that, in doing this, the rich would lessen their own chances of being affected by the epidemics engendered by the objects of their charity.

Exposure to extremes of cold is very apt to produce a drowsy state, ending in deep sleep and death. It is strongly urged to guard against the disposition to slumber, by persevering in making every possible exertion. When one is about to venture out in severe weather, the extremities should be rubbed with some grease, mixed with charcoal, which would much aid in retaining the warmth. A small padding of the size of the sole of the foot, stuffed with fine charcoal, will be of great service, and is more cleanly than the cork soles worn by some in wet weather. It would be well to breathe through a porous body before the mouth, as it will retain some of the heat of the air as it passes through the lungs, and will impart it to the air which is inspired. The face should always be thickly covered; before the eyes a glass could easily be placed for sufficient vision: and, however such precautions may now appear, they will be found of importance in extreme cases, where one is liable to great suffering. No part of the body should be left unprotected, as more or less it will affect the whole system. The blasts of wind in the North of Europe and New England—in situations open to damp places—produce death in a manner like that brought on by the extremes of hot weather. Under such or similar exposures, surely no precaution should be neglected; and never, under any circumstances, by the aged or delicate.

The diseases produced among the poor and servants, from their general manner of sleeping during the winter season, has long excited my attention. Near twenty years ago, I made a suggestion on the subject in my work on chemistry, which I have successfully carried into operation. That it has not been universally adopted, I can only account for from the apparent general aversion people have to use the most convenient and simple means. It is, to have a box, of suitable length for a grown person, tightly made, charred or lined within with some coarse cloth; to be open at one end or on the top; in which a man could lay,

defended from cold air as effectually as by the best bedding.—A little straw would prove of sufficient softness; and a heated stone at the feet would add to the warmth; insuring more comfort in one night than is had in many, while dosing and shivering before fires, as is the case with the greater part of the slaves. The cost would be but a trifle; and, by preventing rheumatism, sore legs from the unequal heat of fires, and the common catarrhal affections; it would amply repay the master for having them made.

OF HOT AIR.

This certainly has a very debilitating effect upon our systems, when long exposed to it, during the greatest heat of summer.—To reduce it when oppressive in our houses, greater efforts should be made than we generally find. Without excluding the air, we should carefully darken our rooms, as heat is generated by light; wetting the floors and walls is of service, as the evaporation carries off the heat; and so do wet clothes hung before the windows. But the best method I have known, is to obtain the air from a cool cellar, or deep hole: and it may be the better insured by a large bellows communicating from underneath, and gradually blowing the air into the apartment. The air from such places will always be found as temperate as that in the same places during the winter; so that it always feels to us cool in warm, and warm in cool weather.

But in such contrivances—indeed, in all changes from heated air to that which is cold—we should be careful not to go beyond moderate limits: remembering that sudden changes from hot to cold are almost as bad as from cold to heated places. The hasty passage from very warm to cold rooms, in winter, is often exceedingly hurtful, and should be made as gradual as possible.

OF DRY AIR.

We know but little of its effects. Art has not yet been able effectually to extract all moisture from it. But in the deserts of Arabia, where the wind passes over immense plains of sand, constituting what is called the siracco; it is probably deprived of all water, and in consequence produces instant death when

breathed. The head-ache arising from the heat of stoves, in some measure is probably produced from the want of moisture; as it is lessened by keeping basins of water on or near them, to evaporate: and during our very dry and hot seasons, the salutary effects of throwing water on the floor may, in part, arise from the water itself, as well as from the coldness its evaporation produces.

OF DAMP AIR.

Of the pernicious effects of damp air, but little doubt can be entertained. In all rainy seasons, people are most unhealthy.—We know that damp air carries off heat much more rapidly than dry air: and we all feel its effects, more or less, every wet day, by the dry, unpleasant sensation in the hands and the greater fretfulness of disposition than generally shewn. It is during its prevalence that suicide is most frequently committed, particularly in England.

Wet seasons are more healthy in towns than country; as the reflection of heat from the walls expedites the evaporation of the water. The most healthy part of a house at such times, is the upper stories; the comparative dryness of the air being shewn by the greater quickness with which wet clothes will become dry above than below. It is better to have no trees or shrubs about a house, as they retain moisture. The benefit of shade had better be derived from artificial means—as plank or canvass.

I have before remarked that it is the changes in the air which excite our diseases. The air during the summer months, is generally very dry in the day, and at night so overloaded with moisture that it falls in the shape of dew. Our systems during sleep are most liable to be affected. Damp air expedites the passage of heat from our bodies; and a current of damp air passing over the neck, is very apt to produce that painful affection called the *wry neck*. Dr. Lind remarks, that on the coast of Malabar, persons who sleep exposed to a current of damp air, are almost universally affected with a general palsy. With these striking facts, need I dwell on the exceedingly unhealthy practice of sleeping with windows open, exposed to night air?—a practice, the source of three-fourths of all our summer and fall complaints. In almost every instance of bilious fever I have attended, the persons were in

the habit of sleeping with their windows open. I have personally known several Captains of ships, who have sailed to the ports of the East and West Indies, as well as to our southern cities.—These have assured me, that they forced their men to sleep in the narrow room below the decks, and in consequence preserved them in health; while adjoining ships, not observing the precaution, lost most of their sailors. Reason and experience, then, call upon you to sleep, in warm weather, with closed windows. Sufficient air can be had through doors and chimneys: and however you may have been habituated to the night air, in a little time its exclusion will be no inconvenience to your feelings.

Houses exposed to occasional winds from ponds, marshes, or any water course, are very generally unhealthy: and during such winds, the doors and windows opening towards them should be kept closed. No doubt the putrefaction of stagnant water may have some destructive tendency.—But then we know this cannot be great; because during the prevalence of malignant yellow fever, the air, however infected, cannot carry the contagion more than a few yards. There is not the shadow of a doubt on my mind, that the great source of the summer and fall diseases, is the moisture of the air. Let me entreat you, then, to guard against it, as you would the most fatal poisons. That some escape unhurt from exposure to it, is no more an argument that it is not pernicious, than that it is not dangerous to be under water half an hour, because some have recovered after having been so circumstanced.

Some of the very destructive effects of night air may be accounted for, by supposing that the dew in falling unites with the various particles, or effluvia, which had ascended and volatilized during the day, and carries them to our lungs. But be this idea right or wrong, let me entreat you again and again—do not sleep breathing a night air: especially in towns and unhealthy seasons. Sleep in the highest and driest rooms of your dwellings.

The facility with which moisture favours the escape of warmth or heat, furnishes a strong reason to observe the precaution so often given by the old, and neglected by the young:—avoid rooms newly plastered, or washed; damp clothes for the person or bed; and when exposed to rains, let the change of apparel be as expeditious as possible.

COMPOSITION OF AIR.

Next to the sensible qualities of our air, we have to notice its composition and corruption. I have remarked that it is made of four ingredients: that is, of water or vapour, varying in quantity; next, of an air called fixed air, or carbonic acid, of which one hundred parts of our atmosphere contain only from one to two parts; then of vital air, called oxygen, which exists in near one-fourth, or about twenty-four parts in the hundred; and the remainder of the air forming the base of nitre, which therefore is called nitrogen air. It is only the vital air which supports fire and life; but for our respiration, the presence of the two other airs is necessary, to dilute or weaken the activity of the vital or oxygen air.

OF FIXED AIR.

The excess of the first air mentioned, fixed or carbonic acid gas, is a frequent source of disease and death. It is heavier than our atmospheric air, and is in large quantities in nature united to other bodies, from whence it is thrown off. It is formed by the burning of charcoal, during the fermenting of porter, beer, cider, and such sparkling drinks. It is often met with in the bottom of fombs, mines, vaults, caverns, wells, &c. United to lime, it forms chalk, limestone, and oyster shells; and when they are burnt to make quick-lime, they give it out: while burning, it is dangerous to stay near them. The presence of this air may be detected by its putting out any burning body introduced into it, and making lime-water of a white colour. The frequency of accidents occurring from this air, renders it necessary that all deep, suspected places should be examined before entered, and should be freely ventilated; all tight rooms where charcoal has been burnt, and close cellars where liquors have been working or fermenting, should be particularly ventilated before entered.

OF VITAL AIR.

It is proper again to impress on your minds, that it is only the vital air, making twenty-four parts in the hundred, that supports

fire and life. This being an undisputed fact, it must be obvious to the slightest observer that it must be very unhealthy to breathe over and over the same air or that from others. As soon as the vital part is consumed, death comes on, as from drowning or exposure to fixed air. Free ventilation is the only corrective; and hence the excess of folly in assembling in crowded rooms not ventilated. But the error in breathing an air deprived of much of its vital part, is not all the evil on such occasions which you have to encounter. The air takes up the filthy secretions of the skin, the offensive matter of the mouth, the mucus of the nose; and, in breathing it, this nastiness is swallowed and deposited in our spittle, whence it is carried to our stomachs; there producing disease. You would be much displeased if one were to give you the washings of his hands to drink; yet it is very questionable if it would be half as filthy as this breathing of the corrupted air escaping from all parts of the bodies of others. I hope these reflections will tend to lessen the resort to crowded assemblies, at least when they are not very clean and freely ventilated. There should be a hole in the centre of the ceiling of every room, to let out the heated and consequently ascending air, at the same time that a plentiful supply of that which is pure is admitted from below.

The continued breathing of foul air, operates on the body like a slow poison, or any powerful stimulus. It corrupts the whole system—preparing it for the worst fevers, for the most irregular and unnatural disorders, the foulest ulcers, and early death. This is exemplified in the lamentable fact of the frequent premature death of young physicians brought up in hospitals—for years inhaling the effluvia constantly arising from them. In like manner, such effects are remarkable among the inhabitants of all filthy houses, cellars, &c. In short, a man can no more encounter their effects on the lungs with impunity, than he can the continued use of corrupted food or drink, of tobacco or any other active stimulus.

Hence the excessive fatality among children brought up in crowded schools, or manufacturing establishments.—Hence the fatality among those negroes crowded together in ships, and in the cabins of some parts of our southern country. Were our lungs as sensible of the want of pure air, as our mouths are of

water; the cry for the first, would infinitely exceed that for the other: because its importance is far greater for our existence. Let me entreat you, therefore, as you regard health and long life, take as great pains to secure a constant supply of pure air, as you would pure drink or food. I will add, that many masters of negroes would much promote their interest, in the preservation of their negroes, by paying greater attention to the purity of the air they breathe, which of course depends on the dimensions and cleanliness of their cabins.

INFLAMMABLE AIR.

There is another kind of air unfit for breathing, which is frequently formed in coal mines, and is given out from some caves and springs. This burns with a flame like a candle, and is sometimes differently composed. It is dispersed by free ventilation.— Sometimes it suddenly takes fire, when it burns with such rapidity, as to produce an explosion. Fire, at the end of a long pole, should be applied to the place where the presence of this air is suspected, and its burning will shew whether it be inflammable air. In England, this kind of air proved very destructive in the coal mines, until Mr. Davy discovered a lamp to expedite its removal; which ought to be procured for the deep coal mines of this country.

INFECTIOUS AIR.

Atmospheric air, besides the ascertainable irregularities in its perceptible qualities, which have been mentioned, becomes impregnated with invisible matter, called contagion or infection—such as excites the small pox, measles, chicken pox, hooping cough, &c. The nature of the substances exciting these diseases is unknown, and their existence is only inferred from the effects produced on living animals. No advances have been made in destroying these contagions; but not so with that matter in the air which produces our malignant fevers in various shapes, from the plague and yellow to low and nervous fevers, under all their varying forms of jail, hospital, ship fever, &c.

The first and most important corrective of the matter producing the epidemical or the contagious diseases of this climate, is full ventilation. Too much in favour of it and cleanliness cannot be said. The wealthy people in the large cities of the East, where the most dreadful diseases prevail, retire in perfect safety to the upper parts of their dwellings, where the effluvia cannot ascend without free mixture with atmospheric air. Near twenty years ago, I strongly urged such of our citizens as remained in our cities during the prevalence of contagious epidemics, to imitate the example, and reside in the upper part of their houses. By a late writer on domestic medicine we are told, as a great discovery, that Dr. Caldwell, of Philadelphia, preserved his son from the epidemic of that city, by making him live in the upper part of his house. A free exposure to the open wind and air of all goods that had been in infected places, could not fail of proving of great service.

Experience has taught that it is folly to expect good from large fires, from burning gun-powder, or smelling any of the volatile vegetable substances. But the experiments of Doctor Rousseau, of Philadelphia, have clearly shewn that the greatest absorption takes place in the nose; that therefore it is proper to stop the nose, so that the breath cannot pass through it; and also we should avoid swallowing the spittle, when exposed to contagion.

The most immediate corrective of contagion is found in the fumes of nitric acid and a preparation of marine acid. To disinfect rooms and ships, Dr. Smith advises that a quantity of nitric be warmed in a glass vessel, on which is to be poured an equal quantity of sulphuric acid. When this is done, the fumes of nitre acid will ascend in the form of red clouds, which will quickly spread around and destroy the contagion. It requires about two ounces to a common room. These fumes, in England, have succeeded in arresting the jail, hospital, and ship fevers; and in the North of Europe, as well as in the Indies, have been equally successful. They should always be tried when it is supposed infection exists: never, however, suffering a reliance on them to lessen attention to cleanliness and free ventilation.—Guyton de Morveau has used with great success the muriatic acid in similar cases. He adds to an ounce of dried salt, the

same quantity of sulphuric acid, diluted with half as much water. He prefers, however, to this, three ounces of salt, half an ounce of powdered manganese, three ounces of sulphuric acid, and one ounce of water, to be mixed in a warmed glass vessel, when a more active acid air is disengaged. By this he completely corrected the air of churches in France, which were so foul from putrefaction that an entrance into them was dangerous. It has been used in other countries with the happiest success. But great caution should be observed in its use, as Dr. Hartshorne, of Philadelphia, found this air injurious to many animals. The use of these airs about ships will more effectually correct their contagion in a few hours than the longest quarantine has ever done.

To prevent the generation of contagion, is of greater importance than to correct it when formed. The prolific source of it is found in the assemblage of many persons together, especially the sick in camps, hospitals, jails, and ships. Where great collections of men cannot be prevented, cleanliness, free washing the body in cold water, free admission of fresh air, as also the use of the acid fumes, should be strictly enforced. But the disasters arising from the crowds of camps and hospitals, may always be prevented. Never since we have had accounts of raising large armies, have we failed to hear of the ravages of infectious diseases. The mingling together of men of such various habits, seems incompatible with health. The millions who perished during the crusades, ought to have given a useful lesson to the whole world on this subject. The many who perished during our revolution, from this cause, ought at least to have made a lasting impression in our country; it destroyed many more than the sword. Soldiers fare better when they live as the Indians, than when cooped up in tents. For their tents they ought only to have shelter from the rain, with no sides that could interrupt the passage of air. Hardships or exposures of this kind, instead of weakening, have strengthened many exhausted adventurers.

But of hospitals, as they are generally established in Europe and in this country, I have scarcely patience to write. A view of the injuries they have done mankind, is enough to fill any one with indignation at the grossness of the error, first in having them erected, and then in not having them demolished. They are

monuments of the folly, not the wisdom—of the vanity, not the humanity, of the founders. Scarcely a year passes over, without our hearing of some fatal distemper breaking out and spreading among them; destroying indiscriminately the man who has but the slightest complaint, even a little sore on his finger, with him who has had an amputation of a limb; making every disease assume one destructive character; and diffusing the foulest contagion among all the attendants and persons in the neighbourhood. To say nothing of experience, it is obvious to common sense that a man brought up in an open house, surrounded with his family, must there be treated more successfully than if removed to the tight wards of a hospital: not one of which did I ever enter, that did not smell offensively, notwithstanding all attempts at cleanliness. Yes; the best place for a sick man is one like that to which he had been accustomed;—if he have no home, then he should be removed to some house like that in which he had lived. The benevolent would do much more good, if, instead of the abominable practice of building large houses in populous places, they would invest their funds in small plantations near to cities: and there erect cheap houses, detached and capable of containing three or four sick each. The economy of the plan—the superiority of the chances of relief—the exemption of the sick from contagion and the cries of the dying, would entitle them to greater rewards, than the founders of all the splendid hospitals of London or Paris, of Philadelphia or New York. For the misfortune of mankind, ostentatious founders have not been satisfied with making such preposterous provision for men; but have extended them to lying-in women and to children. If the accounts of the horrid and shocking fatality amongst the little children crammed into these, are not enough to ensure their destruction; it can arise only from a hardness of heart, or a no less detestable perversity of spirit.

Some years since, the poor houses in Virginia were made in the way in which I propose for hospitals. They consisted of a number of detached cabins, with gardens annexed. The establishments resembled little villages; and the tenants of these places enjoyed as healthy, comfortable residence, as in their own habitations. Of late years, from some strange spirit of imitation, many of these have been abandoned for the substitute of large brick buildings, where each poor wretch is pestered with the

groans, complaints, and stench of each other. Had I the power of a Cæsar, the wealth of a Crassus, and the eloquence of a Cicero, they should all be devoted to the destruction of every large building for the poor, and to the substitution of accommodations like those once prevailing in the glorious pride of the union, the "ANCIENT DOMINION."

OF THE SUN.

Next to the influence of the air in its various states, I consider the effects of the sun on our bodies during the warm season. It is very certainly a source of immense disease. We are told in the Scripture to go to the ant and learn wisdom; and with equal propriety, we may be told to go to the beasts of the field and learn prudence. I again repeat, that it is the remarkably sudden changes in our atmosphere which destroy our constitutions. This being true, could it be possible that after the cool, pleasant state of the air during the absence of the sun, we could fail to be affected, when, a few hours afterwards, exposed to the penetrating rays of this powerful luminary. The wonder is, indeed, that it does not destroy every one exposed to them. We see all our domestic animals, however pressed for hunger, abandoning their pastures and seeking shelter during the hottest part of the day. The greater delicacy of our bodies, demands a more rigid adherence to this dictate of instinct and common sense. Not a summer passes over, without the occurrence of many deaths and much disease from exposure to the sun. It operates almost precisely as spirit; exciting violent fever, great heat, and excessive thirst.—Like intoxication, when it does not produce that sudden death, which the French aptly call "coup de soleil," or blow of the sun, it ends in affections of the liver, jaundice, dropsies, and all those diseases known to follow habitual intemperance. If all would work earlier and later in the summer season, there would be no loss felt in resting four or five hours in the hottest part of every day. This is far more necessary for the white than black man. Sir Humphrey Davy has clearly proved that black colour carries off heat more rapidly than any other. Hence he enjoins to keep the outside of cooking utensils black instead of polished as some over-nice housekeepers do. It is no doubt on this account

that a part of the human species was made black; and not, as is ridiculously maintained, as a mark of disgrace put on the innocent descendants of Cain for the murder of his brother. Their skin conducts off the heat, which rarifies and volatilizes their fluids; increasing the evaporation from the skin and consequent subsequent coolness. They secrete much less urine than the whites, although they drink at least as freely. Reason, then, as well as experience, teaches that only the dark coloured should be exposed to what they so much like—a hot sun. The white man should avoid it as a deadly poison. If he will not withdraw from it as I have suggested, then let him never go out without an umbrella. All can procure them as cheap almost as they please. They will find an excellent substitute in extensive rims to their hats, made of white stiffened paper. Many are prejudiced against such means of shelter, because they think it a mark of effeminacy.—This erroneous impression has been derived from British ancestors, the prevalence of mists in their country rendering such shelter useless. But God knows many of their gallant soldiers have, by the sacrifice of their lives in the Indies, dearly paid for this prejudice. In all the South of Europe, scarcely a man is seen out of his house during the heat of the day. They well know the certainty with which disease is produced, sooner or later, by exposure. In this country, the changes from cold to heat being greater, it is more necessary to guard against the summer sun, which again and again I warn you, none can long withstand, save the coloured man.

I conclude this subject by inserting a letter to Dr. Rush, published in 1806; which I believe contains a very important hint respecting our cities. If a question could arise respecting the utility of shelter, it would be removed by the well known historical fact, that after the burning of Rome, in the reign of Nero, the streets were built wider, exposing a greater surface to the sun; when diseases assumed a far more malignant character.

UNITED STATES' NAVY-YARD,

New-York, 15th June, 1806.

DEAR SIR:

You will, I hope, excuse my troubling you at this time with suggestions concerning the means of arresting the progress of the

fatal epidemics, annually desolating the first cities of our country, as there is no person to whom I can communicate them with more propriety than to yourself. For what medical luminary has so long acted usefully on an extensive scale, by deviating from the practices of others; by shewing the citizens the error of their notions about yellow fever; the folly of dealing with measures of a marvellous kind for preservation, and the advantages of pursuing natural means, for securing natural ends?

Before leaving Virginia, I was firmly persuaded of the truth of the doctrines which you taught in the University concerning the malignant fever in this country. That it is a disease, the cause of which is generated at home, and not imported, is so clearly true, that it is admitted and supported by most of the faculty, who do not oppose the doctrine with a view to preserve the favourable opinions of such wealthy and prejudiced persons as employ them: and indeed the doctrine is even rapidly gaining ground among all the citizens. The general desire at this time is, to discover means, not for avoiding importation, but for preventing at home the formation of that something, called miasma, and causing yellow or malignant fever. In the course of your labours, you have strongly recommended the removal of all collections of vegetable and animal matter disposed to putrefy.— You have considered that the miasma, or cause of the fevers, was generated during the putrefaction of such substances; and you have taught that the removal of these; that the preserving clean the places frequented by the people, would secure the cities against malignant fever. Unfortunately for the health of the citizens, your advice has been but partially followed, and perhaps it cannot strictly be put in practice: for it seems almost impossible to remove all the putrefying masses from the cities, at least while so many persons of careless and filthy habits have so much of their own way.

To me it appears highly probable, that the continued action of the light of the sun has more influence in favouring the generation of miasma, than has hitherto been supposed. It has long been known, that in the animal and vegetable kingdoms, it produces most remarkable effects. But few persons are unacquainted with the facts, that the colour of the skins of some animals is materially changed by exposure to light; that by the same means,

white vegetables which have grown in the dark lose their whiteness, and have their mildest juices converted into the most active; and that it is in consequence of the strong light within the tropics, that so many plants are spices, and are very acrid.— Surely these facts are more astonishing, than the production of that miasma by light which excites fevers.

No one will pretend to say that the malignancy of fevers is proportionate to putrefaction. It even seems likely that the simple putrefaction of bodies, under common circumstances, such as the existence of heat and moisture, is not in reality injurious to men. In all woods, where heat and moisture abound, we know that putrefaction progresses constantly and rapidly; yet persons enjoy in them the best health, particularly in this country. During the unhealthy seasons, in the southern states, it is common, in some places, for gentlemen to remove from their towns and plantations into the thick woods, where they have houses slightly built for their reception: so generally is it known to be safe to reside in shaded places! Lands shortly after they are cleared, are also found to be healthy, although the putrefaction of animals and plants must be immense, from the suddenness of the alteration. It seems almost unquestionable that it is only after *long* exposure to the rays of the sun, that such a species of putrefaction takes place, as is characterised by the formation of the very active compound, causing the fevers which have lately proved so destructive in some parts of this country.

The theory advanced in my inaugural essay, of which you were pleased to express your approbation, led me to form an idea of the manner by which light was directly instrumental in creating miasma. From the firm conviction of the truth of the position, it was without hesitation that I stated “that the form and properties of all compounds were acquired in consequence of the exercise of the chemical laws or affinities of substances, in the state, condition, or circumstances, in which they were placed”—that of course “any material change of circumstances was followed by a change of the properties of the substances placed in them;” and that we were to learn by experience what particular circumstances were necessary to favour the production of any particular compound.

From the above considerations, I am led to conclude, that such is the peculiar nature of light, when it is strong and long continued, that it creates the particular circumstances in which the particles of putrefying matter of a certain kind, so combine, as to form a compound which acts on men, and excites in them malignant and yellow fevers. Should it be asked, why this compound, called miasma, continues to be formed in the autumn, when circumstances are changed by the diminution of light—and what is partly necessary also, heat; the answer is, that such is the constitution or nature of things, that ferment or chemical change once excited in any part of a mass, has a strong tendency to pervade gradually the whole of it, as is instanced in fermenting fluids, burning materials, and indeed in any body in which an alteration is wrought in one part before it is in another. When the light has been such, as to create that condition in which miasma is formed over any surface; an idea of it can be conveyed by observing that “there is a misasmatic state.” By this it will be understood that miasma exists: as the circumstances in which miasma is formed, cannot continue without the formation of it; and indeed the existence of the circumstances can only be ascertained by the result, or compound. Now, the way to prevent the formation of such an active substance, is to prevent the existence of the circumstances adapted for its formation. Inasmuch, therefore, as we have the power, it should be exercised in diminishing that light favouring the production of deleterious substances where people dwell.

It might also be stated as generally true, that the activity of the miasma, formed during putrefaction, is proportionate to the intensity of the light in which the bodies putrefy. Hence in countries where the light is strongest, as in Egypt, the miasma excites the plague; in the towns of the United States, a less violent disease, the yellow fever; and in our counties, only the remittent and intermittent fevers.

In order, therefore, to preserve cities from the terrible epidemics, in addition to your wholesome advice of keeping them clean, by which much disagreeable stench will be avoided immediately, I would recommend shielding them from the action of the sun as well as can be done. Coarse and strong linen made in sheets, could easily be extended from the eves of the houses on one side

of the street, to those of the other. These could be so constructed, that they might be readily removed in all boisterous weather. The expense and trouble would not be comparable to that of paving the streets, as it would require but a little addition to the awnings commonly over the doors of retail stores. But were the expense and trouble ten times as considerable, no man of enterprise and humanity would disgrace himself, by putting such considerations in competition with saving the lives of thousands.— In a conversation on this subject, with which I was favoured, with Dr. Miller, he suggested the advantages of having trees of large branches, at least in wide streets, where they would not impede the extinguishment of fires. These certainly must prove of great service; not, however, as formerly supposed, by absorbing the miasma, but by preventing the light from favouring its production. Nothing can be more certain, than that some very good effects would be immediately produced, if the cities were shaded, at least in some manner more than they now are. The numerous deaths arising, as every one knows, from simple exposure to the sun, and the burning heats created by the reflection of light from the walls, would be avoided; while the labourers would do much more work, as well as the citizens in general feel much more comfortable. These advantages appear sufficient to justify the adoption of my plan, independently of the fair prospect of preventing yellow fever. This prospect, however, inclines me to wish most ardently for the practice; for I believe it will prove successful. Measures less plausible, one would suppose, deserve a trial, for the restoration of that happy state of things, when the citizens will not annually be forced away from the scenes of business; or compelled to see such numbers prematurely consigned to their resting places. To imitate you, in quickening such a restoration, is one among the warmest wishes of,

Dear Sir,

Your friend and servant,

THOMAS EWELL,

From the influence of the sun upon our soils, of moisture or some hidden causes, it is astonishing what changes are made in our atmosphere, although they cannot be detected by any chemical test. The fact is known to thousands, though many disre-

gard it, and pay dearly for their neglect. You will do well to remember, never during the warm seasons to descend from elevated parts of the country, to low lands, or on the water courses; for in ninety-nine cases out of an hundred, fevers are the consequence. For like reasons, in warm weather, removals ought never to be made to our lime-stone and low countries of the west.—While travelling, it is true that persons are not apt to be affected; but when that excitement ceases by locating ourselves, the air fully operates, and the system has to undergo what is called a *seasoning*, often proving fatal. This is avoided by removing for residence, only when cold weather commences. A fatal mistake is often committed by persons visiting and returning from our watering places over the mountains, too early. In many instances, I have known all who have done so, affected on their return with bilious fever; while the other parts of the family remaining home, entirely escaped. The high tone of the system at such places, fits them for fever on returning: hence it should never take place until cold weather, or should be followed by continued travelling, with greater attention to guard against the sun, night air, and all irregularities, and care should be taken to sleep in the most elevated parts of buildings.

Although I had determined that the above should conclude the observations on the effects of the sun, I am tempted to add more, from the late deaths which I have heard of, in consequence of exposure to its rays. Many, and some of my acquaintance—large, robust, able-bodied men, bidding fair for enjoying the longest life—have suddenly sunk under its operation. A great clamour we find raised against a man bringing on himself the diseases of intemperance; but no notice is taken of an equally pernicious practice of self-destruction, by exposure to the almost broiling heat of a summer's day. Would to Heaven, I could make every one whose life is worth preserving, guard against it with as much care as his fears would impel him to shun the supposed raging fires of the place of the departed spirits of the bad. No drenching in torrents of rain, no ducking in water at any season of the year, is half so destructive to the present life and future health of a man, as the darkening, scorching, burning, blistering rays of our summer's sun.

DIET.

There are but few subjects which have more occupied the attention of mankind, than the investigation of what is healthy or unhealthy for the stomach. And it is probable that there is nothing about which so great a diversity of opinion exists—every one fancying that the article best agreeing with himself, is the best.—Indeed, after an acquaintance with the natural history of man,—finding him occasionally living on nothing but meats or vegetables; on locusts, or on the insects of rotten wood; on putrid fish, and on the most disgusting vermin: finding him living on the mildest food and drinks; then on the strongest spices and liquids, taking daily as much red pepper, spirit, and tobacco, as many would suppose enough to kill a dozen horses;—one is tempted to quit the subject, in despair of ever throwing light upon it.—But, notwithstanding the mass of contradictory statements, there are a few well ascertained facts—very important to be known and remembered.

1. Although it be possible to exist under the most extraordinary circumstances of depravity of habit, and corruption of diet; the purest health and longest life are to be obtained by adhering to the most simple dictates of nature, and selecting for sustenance the soundest articles from the vegetable and animal kingdoms. The teeth of a man shew that they were designed to chew meat and vegetables alike; and experience proves that a mixture in food is most conducive to health.

2. Nevertheless, it is by a series of the most decided experiments unquestionably ascertained, that a stomach accustomed to the digestion of vegetables exclusively, will not digest animal matter; and the reverse when accustomed only to the latter: unless it be very gradually habituated to it. The first change produces a little disorder; but by degrees, on the continuance of the change, the digestive powers become reconciled to the alteration in diet. Nature appears wisely to have provided for this peculiarity of the stomach, by a very astonishing gradation from one to the other kingdom: so that in their extremes it is impossible to draw lines of distinction. With, no doubt, a similar view, in the order of vegetation, each successive fruit of the sea-

son very slowly, and at first partially arrives to perfection: so that the stomach by degrees gets reconciled to its digestion. Briefly as I have represented this subject, it is well worthy of your constant recollection. It should impress on you—at least all the young and delicate—the importance of making every change in diet very gradually; never at first eating much of any *new* article of food. When anxious to follow any particular regimen, take but little on the first occasion, very little more on the next, and so on, until the habit is fully established. Inattention to this, is the reason why so many people are sick at the stomach on eating freely of fish in the spring, when first in season; and have such violent affections of their stomach and bowels after taking large quantities of any *new* fruit.

3. After eating, rest is indispensably necessary for proper digestion. This is an important fact. It is fully proved by giving to any two similar animals, under the same circumstances, the same quantity of similar food: Let one of them be kept in motion, the other at rest, for a few hours; then open their stomachs, and you will find that the one kept in exercise will have the food very little changed; but the one at rest will have far progressed in digestion. Hence it follows, that men ought to keep quiet after eating, for the same reason that they prescribe it for their horses after heartily feeding: for the food undigested in the stomach acts as any irritating matter would do, and brings on all, a variety of diseases equal to those of a foundered horse. Notwithstanding the importance of rest after taking food, strong objections are made to eating suppers. To this I have to observe, that, where the object alone is to yield most nourishment to the body, from a given quantity of food, suppers or sleep after eating is proper: But where, from inaction or over-eating in the day, the system is already too full of blood, it is equally evident, suppers and sleep are very improper, as proved by their being frequently followed by disturbed rest, frightful dreams, and all the varieties of what is called the night-mare.

4. Repeated and long continued experiments have clearly established this most important fact—that a given quantity of food, well boiled in water, is greatly more nourishing than the same articles separately taken. This has been fully proved by the experiments of Count Rumford. Thus, if a man will have a few

ounces of meat well boiled, with vegetables, making soup, it will yield to his body double the support which the articles would without boiling. The healthiest people in the world, the French, live chiefly on soups, and so do most of the Europeans, excepting the British, of whom it has been said, as of Americans, that they use their stomachs as other people do their pots, for the mixture of the ingredients of their diet. As, in our country, the poor and the slaves cannot always be provided with an abundance of meat; and as, indeed, the eating of the quantities of meat they wish would be pernicious, it would greatly add to their comfort and be contributory to their health, if their occasional allowances of meat were boiled with vegetables into soup. Against this article there is a too common prejudice—because it is badly made. If the meat were cut up in small pieces, and boiled to rags, as it is termed, the whole mess would partake of its flavour, and the dislike to it would soon cease. The few mouths full of meat now gulped down, pretty much in the manner of dogs, would, properly blended, furnish all their mouths with a very agreeable and more nutritious diet. It will be proper also for me to state, for your better understanding this subject, that the direct or immediate parts of animals which yield us nutritious matter, are chiefly, 1. *Gelatin*, or animal jelly, found most in the skin, membranes, &c. 2. *Albumen*, or a substance like the white of an egg, most found in that part of the blood remaining fluid, when it is allowed to rest and coagulate. 3. *Fibrina*, chiefly found in the coagulating part of the blood, and the flesh. 4. *Oils*, found more or less in all parts of the solids of animals. Of the vegetable kingdom, the *direct* or immediate parts yielding nourishment, are—fecula or starch, gluten, gum, oil, and acids. Although no doubt other parts of our food yield sustenance; we can in general form a sufficiently accurate opinion of the value of an article of diet by the quantities of the above parts found in it, and not mixed with noxious matter. My object for mentioning them is, to shew the great waste that is commonly committed in families, by throwing away substances containing these essential ingredients. What reason can there be for neglecting to use the blood let out; which is of the same nature of that retained in the slaughtered animal? And why preserve and cleanse parts of the intestines,

when all are made alike? The waste of bones is no less remarkable: They are made chiefly of oil and jelly, not excepting those of the fish; and when pounded and long boiled, they yield as nutritious soup as the flesh: their being salted, does not diminish their value for such use;—nor does the salting of any meat, when it is properly boiled, lessen the propriety of making it into soup. The same may be urged of all the plants of our gardens; of all articles yielding any of the DIRECT PARTS of vegetables, enumerated as nourishing. All our seed and nuts, containing an oil; all the gums of our orchard trees, so like gum-arabic—a valuable article of diet among the Arabs; the mucilage of the elm bark; of many plants remarkable for their mucilaginous nature; of water-mellon, quince, and such like seeds, afford as healthy and sound support, when boiled, as any articles in common use. The careful preservation of such substances, should be attended to by all who may be exposed to scarcity, as with but little effort on the part of the cook, they may be converted into palatable and good soup.

5. Our bodies have been termed a bundle of habits, perpetually tending to go through the excitement one day which they did the day before. Hence we desire to eat at the same hour every day. The desire to do this, is not so immediately called for on account of the want of additional matter for our bodies, as it is on account of the accustomed action. It matters not much what times we habituate ourselves to eat; excepting that it is material to the young and to the old to eat very frequently. But when the habit is formed, it should always be attended to; as the suffering in sensation and health of the body, may from neglect be very considerable. The stomach requires its distension and consequent excitement, which is by sympathy communicated to all parts of the body. I mention this as introductory to the fact, that death from starvation is not from the want of blood, but from the want of this action. This is shewn by the fact, that a man when starved to death, has as much blood in his body at last as at first. A man with a fever taking no food and daily evacuated for weeks, shall have his system still full of blood: bears and other animals, being very fat when going to their winter quarters or state of hibernation; although much reduced in bulk, come out with as

much blood as when they entered. Now all this arises from the power of the system to convert the immense quantities of fat formed in every part, into blood. These facts are stated as a reason for recommending a very important means of lessening the horrors of starvation during sieges, shipwrecks, and other exposures, under circumstances of deprivation forcing men to devour each other and even parts of their own bodies.—It is to suck their own blood, as we do on receiving a slight flesh wound, or to have it drawn from the veins and made into soup, to which charcoal, or any bulky matter not of a prejudicial nature, might be added. To us with a plenty to eat, this may appear disgusting enough. But to those suffering the overwhelming pains of hunger, such food would yield a delicious repast; prolonging life in a bearable state, for weeks longer than it could be done without such a substitute. It should also be remembered, that instead of the immediate death of the animals that may be left for food, most support would be derived by taking their blood. Persons who have been suffering from starvation, on receiving food, should never be allowed to eat much at first—and the little they eat, should be of the least stimulating kind. When they do otherwise, the food acting on the accumulated powers of the stomach, produces too much action, and, in consequence, disease and death; just as when we are exposed to excessive cold, our bodies are destroyed by too sudden an approach to heat.

It has taken much of the time and attention of many observers, to ascertain the truth of the facts I have stated on the subject of diet. Their importance should not be valued the less, because that I have so partially represented them. They form the basis or ground-work upon which any one may fashion his diet in the best manner, adapting it to his own particular constitution. They show the folly of some of our capricious gentry, who all at once make great changes in their food—in some instances, abandoning all animal matter at once, and living entirely on vegetables. This is as bad as the practice of some of our western people, who live almost exclusively on meat; substituting that which is dry to eat as bread. In fact, nine out of ten eat too much flesh; and this is the reason their minds are so turbulent, and bodies so inflammatory: being always ready, the one for a fight, the other for a fever. From the mildness of the Hindoos, who live alto-

gether on vegetables, we may rationally calculate that the high action or tone of the systems of our carnivorous brethren will be lessened by a diminution of their animal diet.

DRINKS.

In all ages, man has sought and found some article of drink, calculated to stimulate his body and exhilarate his spirits. The universality of the desire for such beverage, as well as the success of the pursuit after it, furnish sufficient evidence of its conformity to nature, notwithstanding the abuses which have followed its use. But few sources of greater benefit could be found, had there have been an inviolable mandate attached to all liquids—that they should only be drank to allay thirst; to rouse the sinking powers of the body, or to fortify it against the irregularities or inclemencies of the seasons. Of our exhilarating drinks, it is very certain that those of the fermented kind are much the most salutary;—they generally contain fixed air, and always other ingredients, besides the stimulating part, which are found to act something like a tonic. Spirituous liquors should always be diluted, and that freely, before they are drank. The addition of sugar and acid to them, tend to lessen their inflammatory effects on the system. Of those which are the best, a great variety of opinions are entertained. Brandies are considered as least detrimental—but these must be from the grape: for, of all the pernicious, destructive liquors of the kind, ever drank, apple brandy is decidedly the most quickly fatal.

When the body is under high action, with great sense of heat, the applying any thing very cold to that all-important and associated receptacle, the stomach, is but little less than downright insanity. Cold drinks, in such a state of the body, are annually the fruitful source of innumerable lingering disorders, and frequently of sudden deaths. From the last of June till the near approach of fall, thousands sink from drinking cold water. The friends of those who so suddenly die, seem to forget the event as expeditiously as it occurred. Hence there seems no diminution of the practice of drinking copiously when heated. I have known three men at one pump to die in a few minutes, from taking cold water: and there is scarcely a county in the country, where

deaths are not produced by copious draughts every harvest.—Let me impress upon you, that large quantities of cold water generally increase, instead of abating thirst. The water should be but moderately cool, and the mouth well washed with it, as also the hands and face; and then some should be swallowed very slowly, which prolongs the pleasure and prevents the danger. The addition of any thing sour, as a drop or two of oil of vitriol, a little cream of tartar, vinegar, or sour apples, will aid in relieving thirst, much more effectually than spirit. By eating any sour vegetable, or a little bread and water, the same effect will be produced, better than by any quantity of water. It has, indeed, a very singular appearance to see a man take the utmost pains to prevent his heated horse from drinking freely of cold water, while, on the same day, he will himself drink much more dangerously.

Purity of water is very essential for the preservation of health. Its impurities frequently disorder the bowels.—Even the lime contained in lime-stone water, I have known to produce fatal affections of the stomach and bowels. The carelessness in drinking water without examining it, has been attended with swallowing leeches and other worms, which have proved destructive. Whenever men assemble together, as in towns, the water always becomes unpalatable, from the sinking of the filth to the streams below. Near grave yards, it contains much salt-petre, formed during the putrefaction in the graves. It is well that we have ready means of correcting the bad qualities of water, and it would be better if they were more generally employed. In the first place, water taken from the rivers or streams adjoining towns, on placing buckets of it in deep holes or wells, speedily becomes as cool as the coolest from such places, and is always pure.—Next, impure water put in a barrel on an end, with a little straw in its bottom, and half a bushel of coarsely powdered charcoal over it, may be drawn off freed from its impurities, at least those which are not of a saline nature.

CLEANLINESS.

Cleanliness of the skin and mouth, is the next subject to which I have to request your attention. It is well worthy of more

consideration from many of the high, as well as low vulgar, than it generally receives. The neglect of it, is as much to be deprecated on account of the disgust it creates in those with whom the filthy come in contact, as on account of their own health.—It is really a vexatious hardship to have stuffed down ones throat the nasty exhalations of others, because of their laziness; having familiarized themselves to it so fully, that they fancy their stench is agreeable. But really many men of sense consider cleanliness of person and habits as intimately connected with virtue. Count Rumford remarks: “With what care and attention do the feathered race wash themselves, and put their plumage in order; and how perfectly neat, clean and elegant, do they always appear.—Among the beasts of the field, those which are the most cleanly are generally the most gay and cheerful, or are distinguished by a certain air of tranquility and contentment. So great is the effect of cleanliness upon man, that it extends even to his moral character. Virtue never dwelt long with filth; nor do I believe there ever was a person scrupulously attentive to cleanliness who was a consummate villain.”

The anointment of the body with perfumes to suppress its offensive secretions, is a very vulgar and very pernicious practice. It is seldom that it does more than very partially suppress the effluvia, and that but for a short time; it often does injury, by stimulating the skin to diseased action; and it never fails to suggest to others, that the contrivance is resorted to for the suppression of stronger fumes. As I positively assure you, that I am acquainted with superior means of correcting such smells,—means which do no possible injury, never fail of success, and essentially promote health,—you ought certainly to abandon the use of all such perfumed compounds, and give the prescription a full and fair trial.

You ought to be apprised, that it is extremely prejudicial for the secretions of the various parts of the body to remain on them. The matter adhering, acts on them somewhat as infectious matter—causing the secretion of more of the kind. The secretion adhering to the surface excludes the air, and stimulates the parts underneath, which the more rapidly secrete—in some cases, particularly with fat persons, to such a degree, as to render the atmosphere around them excessively disgusting. The

remedy for such a state, is the same as that for prevention. It is not to apply any thing to the part; but to remove the matter from the surface, in the best possible manner, so as to allow the contact of cool air, and the insensible evaporation to go on.

The best means of removing filth from the surface of the body, consists in the use of an article excessively cheap—one of God's greatest blessings to the human family. It does far more than dissolve, cleanse, and purify every part: it prevents and cures several of your serious complaints. Considering the vast importance of this invaluable article and how often it has escaped notice; I am at a loss how to introduce its name. In order to make a deeper impression, I wish I could rouse all your faculties at the development—that I could extort from you a solemn resolve, that it shall be treasured in your remembrance, and daily used.—You need not smile at this pomposity, in introducing the name of the universal cleanser: for if you had never known it, and could henceforth be prevailed on to give it the fullest trial, you would do homage to its powers more extravagantly than I could speak of them. It is hot and cold water, freely applied to every part.—Doctor Sangrado never extolled it half so much as it ought to have been, when supported by “soaking and elbow exertion.”

The most effectual means of washing the whole body, is to daily immerse it for a few minutes, in warm water, at the same time rubbing it with a coarse hair brush, to take off the scales and filth of the skin. This use of the bath will have a most powerful effect indeed, in prolonging your lives, and exempting you from disease. I cannot say too much in favour of the cleanly, healthy, invigorating practice.

An idea of the vast importance of washing the whole skin of the body in a bath, may be formed by adverting to the effects of it among the Romans. Physicians were of a respectable order in the community, until bathing became general. The free use of the bath prevented so many disorders, causing such considerable demand for doctors, that barbers performed their ordinary duties.

In like manner, the standing of the medical faculty was reduced in France, after the general introduction of the bath. The French are particularly partial to free washing; and, in consequence, seldom think of a doctor, excepting for the fashionable occasion of

an accouchment. An American physician who visited Paris for the purpose of improvement in his profession, assured me that he had often endeavoured, in vain, to smell the odours with which we are so frequently assailed in this country—sometimes among persons in elevated stations.

The experience of those in our own country, who make a daily use of the bath, is just as impressive. They are not subject, in general, to half of the disorders afflicting those who suffer their skins to remain besmeared and covered with the exudation from the pores. The females of the southern states, who frequently bathe during the summer, derive great benefit from the operation. The advantages derived from visiting the water places, unquestionably depend more on the washing of the skin, than on any medical qualities in the water.

Indeed, I think after viewing this subject in the fairest light, on account of humanity and pleasure, every person ought to be compelled to bathe daily in warm water. The means of warming water are in the hands of every one, without incurring the expense of additional fire. If a small excavation be made in the funnel of chimneys, a pot may be fixed, around which the smoke passing, will give a sufficiency of its heat to make a large quantity of water of the requisite warmth. But the plan giving least trouble, is that of heating water to scald hogs in the country.—It is to put stones and old irons into the fire, and when heated, to throw them to the bottom of an open mouthed barrel of water.—Two or three of such bodies can always be kept, without inconvenience, in every fire-place, and will suffice, in a few minutes, to make the water of the proper heat. As soon as this is done, they can be removed, and the person sitting in the barrel will have a most pleasant mode of purifying every part.

AIR BATH.

Dr. Franklin discovered that our health was considerably promoted by exposing our persons naked to cold air for a few minutes every morning, and then returning to bed a little while before dressing. This exposure to air favours evaporation from the skin, and has considerable effect, therefore, in cleansing the body, increased by the glow or sense of heat felt on the surface, which

promotes the evaporation, while it tends to prevent internal disorders. Much good would result from a general use of this air bath. Its refreshing powers are frequently found by a person restless at night, and unable to sleep. By getting up and hoisting a window to admit fresh air, the superfluous heat is carried off; and I have frequently known this exposure to be followed by a very speedy and refreshing sleep.

COLD AND SALT BATH.

The use of the cold bath every morning could not fail to answer the purpose of promoting health, more effectually than the air bath. Persons generally suppose a great deal of water is necessary to be poured on the body; but it is a mistake. The object is to *shock* the system, so as to rouse action on the surface; and a quart of water splashed on the back suddenly, and running around the body and down the legs, will answer all the purpose. Instead of the ordinary preparations, stand on the hearth, and have some one (or ones self can do it,) turn over on the back the water in a basin or cup. This is all that is necessary. When desirable to use the sea bath, you can always have it by adding half a pint of salt to half a gallon of water. The salt assists in stimulating the skin: and it gives such vigour, and is so cheap, that it should be used daily in every family. As I shall frequently prescribe this mixture, I wish it to be remembered under the name of the salt bath. The substitute for general bathing, is local washing; and I commence with the feet.

In some persons the feet are so disgusting, as to be intolerable; and persons taking the idea that it is *natural*, give themselves no trouble about purification, unless it be now and then to make them worse, by putting some perfume on them. But there is nothing more certain, than that the smell may always be prevented by daily washing in soap and water. They should be rubbed and scraped hard. It is proper to guard against wearing old shoes, as old leather increases the odour.

Before passing over the subject of the feet, I wish to communicate to you a discovery by an old woman, for preventing the colds or catarrhs which annoy so many of us. It is, every morning before dressing, to dip the feet in a basin of fresh cold water,

to wipe them immediately, and return them to bed for a little while. A glow will be felt, which is a proof of the determination of blood to the part; a determination, which will prevent your receiving colds one-tenth as often as you have or otherwise might. The practice can do you no possible harm; and I entreat you to observe it, because I am positive, that in addition to the cleanliness of the practice, it will shield you from many attacks, probably even from those that might end in consumption.

The smell of the arms is another point to which more attention should be paid than generally is. Perfumes do no good here.—It is water and soap, and hard scrubbing, that purify this region. An idea has been entertained among many, that this is naturally in some cases too strong to be relieved by washing. But it is a mistake. There is no case in which the arm-pit cannot be made perfectly mild in its smell, by daily rubbing with soap and a wet cloth. Lime water is a species of lye, and has been preferred by many. When the hair under the arm has been allowed to remain as it were *matted* in the secretion of the part, the more perseverance will be necessary. Those who smell so very rank, I would advise to cut off the hair in the beginning, so that the daily washing may be more effectual in cleansing the skin. I conclude this subject with the remark, that, considering the certainty with which persons can relieve themselves from this smell in the way pointed out, there is some excuse for the frequency with which they are condemned for the puffs inhaled from their arms.

The next subject for which I have to request your attention, is the most disagreeable, but it is best to state it plainly at once; it is the smell peculiar to the posteriors and the adjacent parts.—The large quantities of fat in this region and the numerous glands, tend to keep up a constant and profuse secretion of strong smelling matter, especially after walking, the most disgusting that comes from our bodies. I have heard some more condemned for neglecting to free themselves from this effluvia, than for any other negligence. Some really have indulged in it so long, as not only to appear partial to it, but to fancy that others must have the same relish. I once knew a physician refuse continuing his visits to a fat lady of wealth, because of the excessive disgust this smell, arising solely from her laziness, gave him. I hope you will pay

the more attention to what I have to urge for keeping these parts clean and inodorous, as truly the means will have a powerful tendency to establish and preserve your health, since the parts are intimately connected with the general system.

The great secret for cleansing, and exempting these parts from disease,—do pray remember it—is to sit night and morning in a tub or piggin of cold water, with or without soap; and for four or five minutes splash and rub the water around. I feel my want of powers to impress the importance of the observance of this practice. The prescription should be observed from the oldest to the youngest, male and female. The posteriors of most animals are naked; so that what is secreted is speedily evaporated, with the consequence of their total exemption from disorder. Children frequently throwing up their clothes, so as to ventilate themselves fully, have but few complaints of these parts, and it is certain ours would be more healthy if more exposed to cold air. The substitute for this exposure, is cold washing. The matter secreted around is dissolved, and goes off with the water, leaving the air to take off in imperceptible evaporation, what is afterwards formed; while the tone of the parts becomes so improved, the action of the vessels so lessened by the cold, that the quantity and quality of the secretion cease to be subjects of attention.

If I could but prevail on those of you who can get piggins, and all who cannot procure them to go daily at the edge of a brook, to sit in cold water for a few minutes, I would render you most real service. Indeed, this frequent washing in cold water will prevent your having that distressing complaint called the piles, as also any kind of boils, fistulas, or inflammations of these parts. Another great and important advantage of the practice, is the taking away the secretion of the adjoining glands, which is apt to become acrid and offensive—thus irritating and exciting the external sources of sexual feeling. There is indeed no doubt that such irritation is the cause of premature desires, prostitution, hysterical affections, and diminished growth of the body. All animals have their growth diminished by such excitements; and therefore parents ought to guard their children against this—as well as hugging, toying, and amorous talk, which produce the like action. The practice of this cold washing at least at night, will prove so advantageous, that I feel as if I cannot sufficiently

urge you—never, never to neglect it. As soon as the habit of doing it is acquired, it will prove a source of far greater refreshment or pleasurable excitement, than washing the hands and face.

The purification of the mouth and teeth, is one of the most important points to which you can attend. To the Scripture, that “out of the mouth cometh forth evils”, might have been added, with equal truth—in it are engendered many. It is very astonishing how greatly all parts of the body are affected by the mouth. You may have witnessed how small a quantity of wine or spirit held in it, tends to invigorate the whole system. A disgusting mouthful frequently excites vomiting in persons not the most delicate; and diseases of the tongue, gums, and teeth, almost universally produce considerable, often dangerous effects in other and sometimes the most distant parts of the body.

This being the case—as most assuredly it is—does it not appear strange that so many escape sickness and death, who, neglecting their mouths, have the most disgusting matter perpetually generating between their teeth, and carried down to their stomachs, there acting as a slow poison, in the excitement of innumerable disorders? It is with the utmost pleasure that I am enabled to say to you, the evils from this source may be prevented entirely: that you may all have what all want—a pure, sweet breath, as it is called, however defective your teeth, by means contributive to pleasure.

After all the researches of doctors, quacks, and ladies, for the best dentrifice; after the use for centuries of simples and compounds, hazarding the destruction of all, and ruining many teeth; after all the inventions of tooth-brushes, stiff and soft, and then of sponge, the great discovery has at last been made, that the best possible application to the teeth and gums, is an article very cheap, endangering nothing, purifying the mouth, by bringing out the offensive matter formed in it; which important article is commonly called warm water!

The preservation of the teeth depends most on the purification of the mouth. In order to purify the mouth and teeth effectually, they must be washed in warm water morning and night, and regularly after eating. The water should be taken into the mouth, the lips held tight, and then freely and strongly agitated by work-

ing the jaws and tongue, so that the effects shall be felt on the gums and the glands, as well as on the teeth. No tooth-brush is necessary—the finger answering sufficiently for rubbing; but if you will have a tooth-brush, let it be of the softest kind you can procure; a piece of sponge tied at the end of a stick, answers very well; as does a clean linen rag. Nothing can be more destructive to gums and teeth than a stiff hair brush.

There is but one tooth-powder I would ever consent to be used. This is vegetable matter; as crust of bread, or common coal, well burnt and reduced to fine powder. Objections have been made to it, from the fear of darkening the teeth, which are entirely groundless; as the teeth are only darkened when their covering, called enamel, is rubbed away in consequence of the folly of using corrosives and hard brushes. Charcoal has a powerful effect in resisting the putrefaction of all the matter between the teeth. Those who fancy there are better powders, may be allowed to try powdered chalk, soap and water; also, Armenian bole and Peruvian bark; but they should be absolutely prohibited from the use of acids, salts, or any active article. Remember, that the *enamel* of the teeth once destroyed, can never be restored.

When the teeth, from long neglect, become incrustated with a dark, yellowish looking matter, called tartar, this ought to be scraped off with a pen-knife, very slowly. There are little scrapers made for the purpose, answering with more convenience.—Only the parts of the teeth that have on them the tartar, or foreign substance, ought to be scraped; so that the sound parts will not be injured, as they always are, when hard brushes and active articles are used to wear off, and to dissolve the incrustation.

In cases where the teeth are “rottening,” in order to prevent the disagreeable taint they give to the breath, it is best to push in them a small particle of charcoal. Where the hollow of the tooth is considerable, after putting in a little charcoal, there ought to be a small piece of bees wax pressed over it, to remain as a plug. The facility with which this plug may be removed is a great convenience, as it enables you to take out at pleasure any matter which may be formed underneath.

There are cases where the enamel of the teeth being broken off by some violent operation, (nut cracking) a plug more permanent

than wax is necessary. In such cases, a dentist should be employed to insert a plug of gold to exclude permanently from the root of the tooth, the air, saliva, and whatever else may be put in the mouth.

But where the teeth are actually decaying; and in cases where defective roots of teeth, called stumps, remain in the sockets, excepting with pregnant women; they should be immediately extracted; more especially in those cases where the health is delicate. The neglect to do it, has been the cause of the disease and death of millions. I before hinted at the connection between the mouth and the general system. You perceive that children, teething, have a great variety of disorders in consequence of the irritation in their mouths. This connection or sympathy between the mouth and other parts will appear the more striking, from the facts respecting the transplanting of teeth, which was formerly done frequently. Those who underwent the operation of transplanting were very often subject to diseases almost precisely like those of the venereal nature. They had enlargements of the bones, deep ulcerations, and were cured, for a short while, by mercury, which induced the belief that they were of the venereal kind. This led to the greatest caution in the selection of the person to supply the teeth; nevertheless, the same consequences ensued. At last it was discovered, that the cause of the complaints was the irritation kept up in the sockets of the teeth, by the foreign tooth inserted; which, of course, led to the abandonment of the practice, and substitution of artificial teeth resting on the gums. Now, what I wish you to remember constantly is, that decayed teeth in the gums produce precisely the same effects: enlargement of bones, ulcerations, bowel complaints, and many other disorders, depending on the particular sympathies of each person.

But few physicians ever think of this subject. It was very early and very forcibly impressed on my mind by two or three cases clearly establishing its importance. In one instance, an elderly gentleman, repeatedly salivated for a supposed venereal taint, sent for me, and on my prescription, "take out every defective tooth," he laughed heartily; at length I prevailed on him to follow the advice, and a perfect recovery made him a warm convert to extracting rotten teeth. Deafness has been often pro-

duced by decayed teeth in the sockets, and often relieved by their extraction.

Whether you comprehend the reasoning on the subject, or not, you will save yourselves from many tormenting affections by following the advice. Indeed, I am so positive of the great advantages which will result from it, that you will be fully paid for the trouble of a year's study, if you will but remember to compel your doctors to extract your decayed teeth, at least whenever you have any serious complaint. It will at all events be of essential service in lessening the irritation in your systems, inclining them to fever. It will have a great tendency to prevent the adjoining teeth from decaying; especially if, in addition, you will keep the mouth well cleansed with warm water, particularly after eating and sleeping, without injuring the gums.

I conclude this subject by remarking, that if I have urged enough to induce you to sit daily in a tub of cold water, or to bathe in the easy and economical manner suggested: and to keep your mouths clean by frequently washing them in warm water, at least after eating, and to have your decayed stumps of teeth extracted; you will derive ample remuneration—far greater than the trouble you have had in reading my observations. Pray give my recommendations a fair trial: and on finding the advantages I have stated, offer the advice to all the uninformed, or heedless, coming under your notice.

EVACUATIONS.

These are from the bowels, kidneys, and skin; the first of which appears most material to attend to. In different persons the discharge from the bowels is very irregular; occurring with some, more than once a day, and with others, not once a week. Sometimes these irregularities pass off without injury; but in general, they ought to be corrected and made regular. All the material operations of the body had best be from habitual exercise, as they are then less liable to affect the system; and there is none of more importance than those of the bowels. The neglect of a little precaution affords instances of great effects following trifling causes. A considerable variety of diseases is brought on by retaining the contents of the bowels. The retention, from the bulk of the mat-

ter alone, excites inflammation of the surrounding parts, often marked by piles and boils near the fundament: next, the excrement ferments, and generates large quantities of foul, irritating matter, which passing up and down in the bowels, stimulates to diseased action as any other fumes introduced would certainly do. You must readily admit this, if you will refer to the difference in quality and quantity of the wind escaping from the bowels, when the contents have been long retained or speedily discharged. In the latter case, they are comparatively inoffensive; while in the other, they are shockingly offensive. Many cases of colic and indigestion arise from this cause; frequently dysentery, and other diseases in parts sympathising with those affected.

In order to evacuate the bowels regularly, the celebrated Mr. Locke recommended daily visiting the necessary, at the same hour—never going sooner or later, unless impelled by disease. You have observed the remarkable regularity in the returns of appetite, thirst, sleep, agues, bleedings, and the like periodical excitements. The human system is perpetually inclined to do one day what it did the day before. Hence, with the utmost certainty, you may calculate on an exemption from all the complaints of costiveness if you will take the pains to go regularly to the necessary at the same hour every day; unless impelled by disease, never going sooner or later. In the beginning, attention and effort will be necessary to establish the habit: but when established, let nothing prevent your attending to it. In obstinate cases, you should use the “sailor’s remedy:” this is the introduction up the fundament of a piece of hard soap, shaped as the little finger. It should be pushed up the fundament, and held there until the evacuation comes on. A similar cut piece of wood, with a soaped or greased rag around it, or the finger when oiled, will equally answer. By persevering in such attempts, the habit will soon be fixed, and it will remind you of the approach of the hour without fail. Again I beseech you to persevere in the attempt, even though disappointed in the beginning. The advantages resulting, would compensate far greater labour. If you fully knew the enormous quantities of physic swallowed for correcting costiveness, the variety of diseases brought on by retaining the decomposing contents of the bowels; you would not require again to be told of this certain remedy. I will add, the efforts had better be

made in a necessary open at bottom, for the admission of cool air. On the principle of Dr. Franklin's air bath, before mentioned, this will evaporate the moisture of the parts; producing coldness, and rousing them to new and vigorous action. For women, as well as men, this would be infinitely more salutary; as it is more cleanly than the lazy and disgusting habit of using pots in houses. But on such occasions it may be best, as it will be more useful, to obey the command given to the Israelites in Deuteronomy, (chap. 23. v. 13.) "and thou shalt have a paddle upon thy weapon; and it shall be when thou wilt ease thyself abroad, thou shalt dig therewith, and shalt turn back and cover that which cometh from thee." By doing this at the side of some cultivated plant, its growth would be expedited and we avoid the disagreeable smell. When the evacuation is made, it is certainly most proper to wash the fundament in its protruding state, as it thereby will be effectually cleansed, which it seems very difficult to do by common wiping. In selecting something to wipe with, irritating articles, as the weed called "ass smart," the leaves of the poison oak, &c. should not be used; as they have been known to produce mortification of the fundament. Persons who are weak, or in danger of having very large evacuations; should never remain long in making the discharge, or do it in an erect posture, as it may end in fainting and death.

URINE.

The contents of the bladder, like those of the bowels, are subject to great variations in quality and quantity. The secretion depends not only on the state of the kidneys, where it is formed; but the time of its retention in the bladder. Notwithstanding the great attention which the urine appears to have excited in all ages, but very little is known respecting the causes of its variations.—But we know that its long retention in the bladder is very pernicious. It distends this vessel when retained, and undergoes a species of putrefaction sometimes very offensive, and from both causes is apt to create irritation and inflammation; also, it deposits a sediment, not unfrequently forming a base for the stone or gravel. The inclination to void it, ought always to be followed by its indulgence—particularly with women: as its retention by them,

is apt to cause displacement of the womb, especially in early pregnancy. It is very apt to excite dreaming when retained in the night; and with elder persons, it disturbs sleep, which renders it essential that they like children should frequently void it. A sudden application of cold air or water to the skin, tends to excite an inclination to urinate. When the slightest impediment to its evacuation exists, there should be an early application for professional assistance, as the most fatal consequences sometimes follow from what appears very inconsiderable.

PERSPIRATION.

The skin is much connected with the kidneys and stomach.—The perspiration is a discharge perpetually going on, either in a sensible or insensible state. Like the urine, it varies in quality and quantity—from invisible vapours to large drops; from mild, inodorous vapours, to very offensive sweat. The state of the stomach has great influence upon this secretion; as we frequently find the slightest sickness followed by profuse perspiration. Like the urine, this discharge affords no grounds for forming accurate opinions respecting diseases.—But we know that for health, it should be moderate and regular. Its sudden suppression by changes from heat to cold, is a source of great mischief. Exposures, therefore, to currents of air, while perspiring, should be carefully avoided, as the evaporation of the moisture increases coldness. This is the cause of the numerous affections of the lungs—as colds, pleurisies, and consumptions. Whenever the perspiration becomes offensive, the warm bath, with salt or soap, ought immediately to be tried. Insensible perspiration is greatest when the skin is hottest; and then the bath ought to be rather cool—at least, not much warmer than the surrounding air. Persons subject to irregular perspiration,—that is, at times having very little, and at others having it very profuse,—should wear flannel next their skin, which will tend at least to regulate its evaporation.

EXERCISE AND REST.

A proper mixture of these, is as necessary for good health as pure food and drink. The circulation of our fluids and the action of our solids, may be compared to a mill-race and-mill: where the water constantly coming, unless vent be given, it backs, increasing in magnitude, until it bursts and overwhelms the mill. Our capacity or power of action is constantly accumulating, unless we give vent to it by an expenditure of exertion: and if we do not, violent action is sure to burst the natural state of the solids.—Health requires a perpetual accumulation and dispersion of the animal powers, to be secured only by rest and motion. To continue the comparison; when the waters have accumulated in the race, a little hoisting of the gate will give vent to a great deal, and much will be the increase of motion in the mill. So when the power or capacity of the body is accumulated, but little exciting cause will produce great action. Thus we find when the powers of the stomach are accumulated from the want of food, a little of it will produce great motion: thus a man deprived of heat or in a frozen state, will be violently acted on by a very little warmth. It is precisely so with the muscular powers of the body: their capacity increased or accumulated by rest, must be exhausted by motion, or very inconsiderable causes will produce diseased action. It is true that the indolent do sometimes apparently escape; but it should be remembered that our systems are so formed, that one part often performs the functions of another: and from sympathy sometimes takes on the diseased action of another part, and thereby exhausts the accumulated capacity or power or excitability. This always takes place sooner or later; sometimes the violent excitement being immediate and in the particular part kept idle, while at others it is procrastinated and in some different part of the body. But you may rely up it, that in some shape or other, have the expenditure assuredly you will. Nature has made our constitutions for it, and with her there can be no trifling. Her laws are not to be violated with impunity: atonement she will have for every irregularity: your physicians may postpone, but your bodies must make the payment at last.

But surely no such general remarks can be requisite to convince you of the great importance of exercise. You daily perceive the difference between the meats of animals brought up in a state of nature and those raised in pens and artificially fattened: the one is possessed of a delicate flavour; the other is a mass of almost tasteless, oily matter. It is just so with the active and lazy man: the system of the one is kept invigorated—able to resist disease; that of the other seems so loosely held together, that like a rotten fabric, the slightest shake speedily shatters and destroys it.

The proper place for exercise is in the open air. It then most tends to invigorate and renovate the whole body. Hence the strength of women who exercise in the open fields, is superior to that of the most industrious confined to their houses. But to those who cannot leave their habitations, particularly the old, I would recommend the daily use of the swing; and to all, the freest use of a stiff brush for the hardest friction of the skin.

But after having said so much about exercise, it is proper to observe that when too great, it prevents sleep: and that sleep—rest, perfect rest—is equally necessary. To the person who expects too much work from his man, I have to state that he must have time to accumulate the exhausted capacities of his body.—From seven to nine hours for sleep, quiet and in comfort, should be allowed to every labourer. To allow him less, or to make him work immoderately, is to make him in constitution “old in youth”—blasted in his prime. One of the best wishes I could make for my country is, that there might be among them as remarkable an equality in their bodily exertions, as there is in their political privileges.

It is much to the credit of the great mass of our slave-owners, that they have very generally improved in the treatment of their negroes; giving them far better accommodations, and requiring of them less extraordinary labour than our forefathers. But still there are many who would better promote their own interests, by bestowing more attention on them—as constantly providing for them as they do for their favourite horses, sound food, a comfortable bed, and undisturbed rest, and requiring daily but moderate labour.

I will conclude this subject with offering the precaution, that persons laying down to sleep, should not only avoid all damp places, but old piles of stone, brush, and ground floors, where various worms, especially the *many-footed* kind, exist. Under such exposures during sleep, worms have crept up the nose and into the fundament; sometimes producing the most excruciating tortures during the remainder of life.

THE PASSIONS.

The intimate connection between the mind and body has been long remarked. It is scarcely possible to affect the one without the other. In the ordinary occupations of each, this does not appear so obvious; but it is sufficiently shewn when there is violent excitement of the passions. Their moderate exercise unquestionably tends to animate the body—to equalize all its actions—to invigorate all its powers. But their immoderate indulgence, scarcely ever fails to produce disease—often to an alarming extent—sometimes sudden death. The passions are to our systems what streams are to valleys: so long as they gently move, they are subordinate to the most important purposes; but when raised beyond due limits, all bounds are burst asunder, and ruin to mind and body marks the progress.

ANGER.

If the body could complain of its wrongs, the baneful effects of this passion would be the first subject of expostulation. It operates on the system sometimes like an electric shock; producing a sudden rupture of the blood vessels of the brain, and consequently death: at others, raving madness, convulsions, palsies, and continued fevers. Indeed, during its excitement, there is always considerable fever. If persons on their own account, will not refrain from yielding to this passion, their associates ought studiously to avoid provoking them; feeling pity for the infirmity.—Washing the head in cold water, and drinking a glass of the same, will tend to allay the fit; but if not successful, bleeding, and a little tartar to produce sickness at stomach, will soon divert the thoughts to another subject.

FEAR.

This has often produced insanity and death. Its first effect is generally a loss of the contractile powers of the fundament and bladder: hence their contents are apt to come out. Parents cannot be too careful to prevent the attendants on their children from frightening them. If it do not produce immediate disease, it will probably make them cowards for life. In sickness, all fears should be avoided: as they tend to bring on the evils dreaded—especially among women who are pregnant. There is no exaggeration in the statement, that thousands are annually hurried to the grave, by fearing the fatal termination of their disorders. Hence the extreme folly of alarming the sick—of ever giving them to understand the hopelessness of their case—or of telling them that they are about to die. Nature has for wise purposes, concealed from us the time of our dissolution; and it is unpardonable in attendants to attempt counteracting her ways, by offering their fallacious opinions, and, most frequently, unfounded predictions; often preferring the gratification of their vanity in the fulfilment, to its disappointment in the recovery of the patient.

GRIEF.

We cannot avoid feeling this, on meeting with misfortunes.—But the subjects of it should have impressed on their minds, that an indulgence in it, is not only unavailing, but inconsistent with health, reason, and resignation to the will of God. After its first ebullitions shall have subsided, the utmost efforts should be made to force the mind to different exercise: the best is that which rouses the energies of the body at the same time. Bathing in cold water, travelling on hard going horses and in carriages over bad roads, new scenes, or hard work, will speedily dispel the settled gloom.

LOVE.

The most agreeable and animating of the passions, comes in for its share of mischievous effects; producing distempered minds and emaciated bodies. The objects of love should never be se-

lected among relations: as marriage among them, tends to enfeeble the offspring. There is certainly an observable degeneracy in all families frequently intermarrying. We find it so with most animals long confined to each other on our plantations; so that it is no inconsiderable object to cross the breed. And so it should always be with men and women, as it generally is in this country and England. I have no doubt but that it is owing to the mixture of foreign blood—a compound of almost all nations, that we find such specimens of superior genius; eclipsing in display, though not in diligent research, all other countries.

All under the influence of love, on meeting with disappointment, should refrain from despondency or thinking of the object. They should recollect how many there are, so like the one beloved. An earnest pursuit of business—new scenes—change of companions—boisterous encounters, afford reasonable antidotes to its baneful influence. But I should suppose a sovereign remedy would be found in an introduction behind the curtains—an exposition of circumstances, analogous to some of Swift's singular verses:—in short, an impressive discovery of the infirmities of human nature.

JOY.

When in excess, this has frequently terminated in a very joyless way—destroying instantly the life of the party. Indeed, I believe it is much less easy to encounter very good than very bad news. It is useless for me to detail cases illustrative of its fatal effects; as every reader must be familiar with some examples—at least in ancient, if not in modern story. When the person is weak, or the news of a very important nature, it ought to be imparted by very slow degrees: carefully keeping up suspense—curiosity—hope, stronger and stronger still—'till the system is fully prepared for confirmation.

RELIGION.

This has a most powerful effect on the mind and body: and, properly exercised, it produces serenity—tranquility in the one, industry and energy in the other. Beyond proper boundaries, it

eventuates in fanaticism or insanity in the one; convulsions or indolence in the other. Strange as it may seem, it is a well established fact that many of the most pious, innocent persons—especially females—are very prone to derangement. Their minds become inflamed with fears, oppressed by forebodings, or destroyed by despair. The impassioned denunciations of some of the professors of religion, so engross the intellect, that scarcely a thought remains of the mild, the gentle, loving, cheering religion, as taught in the words and by the example of Christ himself. The alarming, hell-denouncing vociferations of the mouth-ing votaries of the gospel, are taken for the inspirations of divinity;—all reason, sometimes even sensation departs, and violent death occasionally closes the scene. It is well to remark in this place the strong propensity we have for imitation. It is so great, that sometimes in the extensive wards of a hospital, when one patient is brought in with convulsions, although the complaints of all the others in the room are of a different nature, each one in a little time has become affected with the same kind of convulsions. So, in an assembly of noisy enthusiasts in religion, a fit excited in one has often, from like sympathy, been communicated to hundreds—particularly to all of a weak, nervous, delicate cast. This the excitors call conversion to christianity; although very generally attended by a loss of all sense, a state of stupor, or violent screaming, and tossing of the extremities. Persons whose nerves are in a weak state, cannot be too cautious in visiting such places. I have to add, that it is the extreme of folly, not to say cruelty, in the friends of persons ill, and probably about to die, to suffer their last moments to be shortened and embittered by the interference of these bellowing, awakening exhorters. They do no good; but excite a frantic feeling like that raised when people are running roaring out fire! fire! The last periods of life should surely be spent exclusively in the contemplation of the attributes of God: his goodness—his love—and his limitless mercy. Instead of making religion a bug-bear to frighten, we should always remember—

“’Tis this that makes our morning bright;

“’Tis this that gilds the horror of the night.”

INTEMPERANCE.

The abuse or excessive use of the good things of this world, falls heavily indeed upon our bodies. There is scarcely one irregularity of which we are guilty, without our having to suffer in proportion to its extent. Could we always have presence of mind enough to count the cost, before the commitment, it would spare us much suffering; many of what we may call bills against future health for present riot.

Although the term intemperate is generally applied to drunkards, it is equally applicable to eaters, in over quantity as well as high quality; to the too free lovers of the sex, as well as of the spices. Whether from diet or drinks, teas or tobacco, women or wine—you may rely upon it as an incontrovertible fact, that any universal excitement in the body naturally and necessarily tends to exhaust its powers, and shorten its duration.

The gormandizer is the most selfish of all men: he is constantly thinking of his maw, destined to “that good hour” of filling. But, like the fancied Anaconda of the East, he is sure to perish, to putrefy, from his own excesses. Apoplexy, palsy, disorder of his digestive powers, or gout in the stomach, generally makes his body, at an early age, good food for consumption, instead of a voracious consumer. If accustomed to a full distention of the stomach, he should substitute for his diet such bulky articles as bread, potatoes, or rice, in preference to those which are more nourishing.

Persons accustomed to the use of large quantities of tea or tobacco, find great difficulty in refraining from them. Their systems suffer as much when deprived of them, as those deprived of their accustomed spirit; moreover, when the constitution is debilitated or undermined by them, it is more difficult to restore it: Hence the great care persons should take to avoid the use of such stimulating articles. The young ought never to take them, as they naturally arrest the growth of the body. This is so well understood, that puppies are often highly stimulated to prevent their becoming large dogs. Our spices, mustard, pepper, ginger, horse-radish; and indeed all pungent articles, should be kept

from the young, as they more or less injure the tone of the stomach and vigour of the body.

Habitual inebriation invariably ends in some kind of affection of the liver, and indirectly affects the stomach and the brain through it, and also the skin, and often terminates in dropsy, diarrhoea, &c. It makes one old in youth, as to body; and as to intellect, a baby in age. Its destructive effects on the mind constitute its most dreadful tendency; as it renders idiotical, intellects of the greatest strength. From at first expanding the heart, opening its avenues to every generous impulse; it centres in all that is meanly selfish and lowly brutal.

It was the opinion of the late Doctor Rush, that persons guilty of frequent intoxication, should at once abandon the use of all stimulating drinks: "touch not, taste not, handle not," he urged on every sot. I have repeated his recommendations to many—urging the propriety of doing as the Doctor advised. The consequence, I have long believed, is that it has been instrumental in hurrying the death of several elderly persons who suddenly and entirely refrained. Experience has proved to me that Dr. Rush's advice should be followed strictly by all young and middle-aged persons. Their constitutions can accommodate themselves to the sudden change.—But not so with those who have passed the prime of life. To perpetuate their existence, I would strongly recommend the gradual abandonment—the substitution of new drinks, of opium, of spices, or of any essential oil which will stimulate the stomach. If they have not resolution to keep within the bounds of temperance, some friend, not so brutal as perpetually to provoke them to irregularities, should undertake to preserve and portion their doses in proper quantities. The sober ought to remember that the propensity of the drunkard, is an affection of the mind—the diseases of which are generally more under the control of gentle than harsh means. However depraved the object, lenity, tenderness, and respect in ones conduct to him, will operate far more powerfully than rudeness and rebuke. To cherish a decent respect for ones self, leads to the cultivation of a regard for the opinions of mankind: while an opposite practice leads to an opposite course; to feelings regardless of ones self—of the world—and all that is concerned in it.

Intemperance in sexual intercourse is no less destructive: it impairs the mind and body when too early, too violently, or too long indulged. In early life, it certainly impedes the growth of the body; indulged in excess, it produces fatuity and baldness. In age, it hurries to the grave, as is frequently instanced in the speedy death of old men marrying young women. Between the two there is a striking conformity or resemblance in ridiculous folly; but in their bodies, a greater dissimilarity no where is to be found. In the East Indies, where the venereal passion is very early and very freely indulged, there is a great paucity of mind and imbecility of body. The passion is nearly extinct at the age of thirty; and it is so mortifying to the delinquents, that the universal entreaty to European physicians on going among them, is for something to restore its vigour. Similar effects follow from similar conduct every where: Hence our worn-out rakes make up in the ribaldry of their tongues, what they have lost in the animal function. Hence an old man—one of sixty—who has preserved his power, is better for procreation, than a debauchee of thirty. Well would it be for the enjoyment or happiness of all, if it could constantly be borne in mind, that

“Health consists in temperance alone.”

In concluding this part of the subject, I shall offer from second hand, the excellent advice of Celsus. “A man who is blessed with good health, should confine himself to no rules, either with respect to diet or medicine. He ought frequently to diversify his manner of living; to be sometimes in town, sometimes in the country; to hunt, sail, indulge himself in rest—but more frequently to use exercise. He ought to refuse no kind of food that is commonly used; sometimes to eat more—sometimes less; sometimes to make one at an entertainment and sometimes to forbear; to make rather two meals a day than one; and to eat heartily, provided he well digests it. He should be careful in time of health, not to destroy by excesses of any kind, that vigour of constitution which should support him under sickness.”

ACCIDENTS,

From lightning and from carriages, are so very frequent in this country, that I deem it of importance to make some remarks upon the subject. With ordinary care, I have no doubt that half of them could be prevented. It is the nature of lightning to strike the body nearest to it, and run down its exterior to the ground: it is also most apt to follow any current of air. This should teach us, as well as the most unquestionable experience which has been had of its propriety, always to keep every part of our houses shut up during a thunder storm. The chimneys should also be closed, as a current of air is constantly passing through them. The inhabitants of the house should be in the lowest part—in the centre of the room, and, if convenient, on a bed. Thousands of houses have been struck under such circumstances, without injury to the inhabitants. Again, the doors or windows should never be opened until the storm is completely over. In consequence of opening them too soon, a current of air rushes in—carrying the electric fluid, which, within my knowledge, has destroyed more than a dozen persons. When exposed to a storm without shelter, persons should avoid any elevated object, as trees or stakes, and lay down on the ground where there is least wind passing.

Of carriages and horses, it is very remarkable, particularly among stage-owners, less care is taken to provide those that are safe, than vehicles to carry produce. Hence we find the stage the place for all the wild horses in the neighbourhood, and the frequency with which accidents occur in them. The late Professor Wistar of Philadelphia, whose solicitude to instruct his class knew no bounds, took considerable pains to impress them, when in a carriage whilst the horses are running away, to remain in it at the bottom, unless in danger of passing a fatal precipice.—That when the carriage is upsetting, the person should coil himself as much up in a ball as possible, the knees to the stomach, the head on them, and the arms entwined around the legs, so that the bruise of the fall would be on no projecting part.—The folly of extending the arms to lessen the fall, is shewn by the constancy with which they are fractured. Again, in jumping out or off from a horse, the jump should be made so as to twist

the body half round, so that the feet will light in the direction in which the horse is running. If this be not done, in all human probability the ankle bones will be fractured, as the ankle joint has but little motion sideways; and the body having the velocity which it received from the horse, the feet being fixed to the ground, the tearing of the parts seems almost inevitable. But when the feet and face are in the direction of the motion, the joints bend or give way, and the body falls, rolling somewhat as a hoop, thereby not exposing any one part to all the severity of the fall. The remembrance of these precautions has more than once saved me from broken or dislocated joints.

It may be well here to add a caution against striking persons on the head. Blows sometimes of most trifling appearances prove fatal: the parts underneath the skull take on inflammation, and the brain is destroyed. I have known a blow on the head from a key to cause the death of a boy; and our books of surgery are full of fatal events from such trifling causes. If the blow be severe, a numbness or insensibility is produced, and there is but little pain; hence, if the desire be to inflict pain at the time, some other more sensible and less vital part should be struck.

Blows to females on the small or bend of the back, should never be given. The bones there are very tender, easily bent, and, when bent, often end in the destruction of the life of the poor sufferer during her first child-birth; so that the violent bruiser becomes accessory to two shocking deaths.

RECAPITULATION

Of the Means of preserving Health after Infancy.

1. Take all the precaution in your power to guard against the irregularities of the weather: adapting the clothes to the changes, especially in extremes of cold; women by all means, in winter, wearing the tight under-dress of the Turks next to their skin, as a sovereign preventive of the colds and consumptions which carry off annually thousands of them.

2. Be very particular in breathing the warm air of a room after coming from cold places, as the lungs are affected as violently by the heat, as are the extremities of the body when cold.

3. In hot weather, keep your rooms cool by the exclusion of light, and by wetting the floors, hanging up wet cloths at the windows, or admitting air from the cool cellars below.

4. During all sickly seasons, especially in the summer and fall, guard against sleeping exposed to night air; as that, probably more than any thing else, is the cause of fevers and other diseases.

5. Ventilate freely confined places previous to entrance; or, if the presence of air not respirable be suspected, first introduce a burning candle, which becomes extinguished if the air be unfit for breathing.

6. Avoid breathing the same air too often, or that which comes from others; because it loses its vital part, and becomes impregnated with noxious matter. Hence, sleep in large rooms, with but few others in them, and without fires, which equally destroy the air.

7. In sickly seasons, when you cannot change your residence—guard against foul or infectious air, by following the practice of the people of the East, in living in the highest parts of houses; free ventilation and cleanliness; when with the sick, not breathing through the nose, or swallowing the spittle; and by purifying their rooms with the fumes of the mineral acids.

8. By preventing the confinement of many sick, poor or prisoners, together in one room, you will prevent the generation of that contagious matter which has destroyed so many in camps, jails, hospitals, ships, cellars, &c. It is incalculable how many thousands of the lives of the poor emigrants to this country would have been saved on the voyage, by the use of a few ounces of mineral acids, as has been recommended on the subject of purifying air.

9. Avoid exposure to the rays of a hot summer's sun, with the same care that the prudent beasts of the field do: their strong effects on the system being like ardent spirit, producing either instant death, inflammatory fever, or disease of the liver, with its usual attendants.

10. Never return from watering places, or mountainous countries, to the warmer parts you inhabited, until cold weather has commenced; nor should you until then remove to low lands, or to

any new country, unless you can keep constantly travelling till frost commences.

11. Let your diet be as simple and plain as possible, and all changes in it be gradually made; preferring a mixture of animal and vegetable food; and substituting, at least in times of scarcity, soups for solids.

12. Avoid cold drinks when heated, for the same reason that it is prescribed to horses; and in selecting drinks, give a preference to those which are fermented; never taking spirit undiluted.

13. Cleanliness of mouth and skin, is constantly to be preserved by frequent washing—at least all with defective teeth—and all parts of the skin which secrete freely; because the matter on them becomes corrupted, corrupting the whole body.

14. Preserve regularity in the evacuation of the bowels daily, and never retain the urine after a desire to void it; because these discharges, when retained, are apt to irritate and excite disease; and in like manner, pay attention to the discharge from the skin; when considerable, having the clothes changed, and avoiding exposure to a current of air, which, by evaporating the moisture, produces great coldness, and the diseases usually arising from cold.

15. Remember that the powers of the body require perpetual renovation, as well as expenditure: therefore exercise and rest, in proper proportion, are indispensably necessary for health.

16. Never indulge in violent passions of any kind: their moderate exercise is certainly necessary for the perfection of the body, but their high excitement is destructive to it; they, like every other stimulant, require a due regulation from rage to religion.

17. Recollect that all intemperance in the use of the things of this world, “falls heavily indeed upon our bodies,” acting upon them as bills on future health for present riot; that, according to the construction of our frames, it amounts to an impossibility that it could be otherwise.

18. Observe the precaution, in thunder storms, to keep in houses closely shut up; never approaching doors or windows, until they have subsided. And in falling from any vehicle in motion, coil up as much as possible, or endeavour to light on the feet in the direction in which you are moving; or, in other words, not to light sideways, to endanger the dislocation of the ankles.

The last advice, though not the least in importance, which I have to offer for preserving health, is a great attention to regularity in all habits. By not observing these, the routine of action in the body becomes interrupted, and disease in consequence is more apt to enter in its subsequent operations. Hence, other circumstances being equal, the most regular, systematic persons are the most healthy.

DIVISION II.

Medical Part.

1. PRINCIPLES ON WHICH LIFE IS SUPPORTED.—OF SOME OF THE FUNCTIONS OF PARTS OF THE BODY.—PRINCIPLES ON WHICH DISEASES ARE CURED, AND THEIR PARTICULAR REMEDIES.
2. DESCRIPTION OF THE OFFICES WOMEN SHOULD PERFORM TO EACH OTHER IN CHILDBED:—THEIR DISEASES; AND THE DISEASES OF CHILDREN.
3. TREATMENT OF COMMON COMPLAINTS.



DEDICATION.

*To Joseph Hartshorne, M. D. of Philadelphia, Surgeon
to the Pennsylvania Hospital, &c.*

DEAR DOCTOR:

IN inscribing to you the medical part of this volume, I have consulted my inclination, instead of your wishes. It is the dictate of the respect, regard, and gratitude I have for you, which, in plain terms and honest truth, is greater than for any medical man I ever knew. I have read many books in the various branches of our profession—almost half as many as yourself—but from none have I received more instruction than from your frank and free communications for more than the last twenty years, when I have been with you. Seated at a great fountain of medical science, you have been the first to observe and to communicate improvements; always imparting your knowledge with an unusual liberality, correspondent to that with which nature has moulded your mind.

On account of the reputation of the Medical School of Philadelphia, as well as the interests of its future students, I sincerely regret that you were not elected Professor of Surgery, occasioned by one casting vote. It is shameful that the teachers of our art should be elected in the University by a set of persons totally ignorant of all its principles, and consequently incompetent to make the most judicious appointments. The Trustees should have had modesty enough to have declined acting in the case;

to have left it to the decision of our brethren of the faculty, who would promptly have appointed you; because they have long known the superiority of your learning, the importance of your improvements, and the extraordinary success with which you practice surgery and physic.

May you long live, not only for the happiness of your family, but for those who will sojourn to Philadelphia for the benefit of your professional services.

Your Friend and Fellow-Graduate,

THOMAS EWELL.

Georgetown, August, 1824.

MEDICAL PART.

ADDRESS II.

*Principles of Life; Functions of parts of the Body;
Principles on which Diseases are cured, and their
particular Remedies.*

WHEN the principle or spirit, or essence, or what else you may choose to term the capacity of existence, is infused or given to any matter capable of receiving it, it adapts that matter to a state capable of action; and this is called LIFE. But this capacity of action would speedily become extinct, unless something acted upon it. That which acts upon it may be called the cause of action; or, in common language, a stimulant. Thus the eye has the capacity of seeing: but it is not roused or excited to action, unless light operates on it, producing vision;—and the same sort of remark is applicable to the action of every part of the body.—The lungs stimulated by the air, impart new qualities to the blood, which stimulates the heart: and this all the blood vessels of the body, giving to each its appropriate stimulus. The food stimulates the stomach to secrete a juice, called the gastric juice, which dissolves the nutritious particles; and this again stimulates the vessels of the bowels made for its reception; and they, being stimulated by it, contract and propel it to the place destined for it—to be mixed with the blood, to supply the expenditures of our body. Our senses are stimulated by what acts on them: these stimulate the brain, which excites thought, which again stimulates the brain to further action: thus perpetuating itself by action and re-action, which it is to be hoped will go on to eternity—forever advancing, though never arriving at perfection.

I hope this is enough for you to understand the simple doctrine of animal life, as advanced by the celebrated Brown, com-

prised in the few words:—that life is a forced state, depending on the action of stimulants: upon our susceptibility of action, called excitability: and that this life, or excitement of our bodies, should be in proportion to our excitability, for health to exist.—This is a short sketch of the subject, which has produced a great revolution in medicine, and will hereafter probably do the same in morals. Thus, a man knowing that his labourer has only a certain share of excitability—that when too much exhausted, health is destroyed: he would not cause it by imposing too much of the stimulus of labour. Thus, if one were conscious that by taking too much of the stimulus of spirit, his excitability would be exhausted, he would refrain in moderate bounds. Thus, if the indolent man were conscious that by inaction his excitability accumulated, so that moderate stimulants produced over-excitement, or diseased action—all necessarily following,—he would exhaust it by exertion in a pleasant manner, rather than have it done by the painful excitements of diseased action.

Those wishing to understand this doctrine, as it ought to be by every gentleman, had better consult the writings of Doctors Brown and Rush on animal life. I shall have to make a few more remarks on the subject presently, when treating of diseases; but I hope enough is stated to impart an outline of the subject.

STRUCTURE OF THE BODY.

On taking a view of the body, we find it is made of solids and fluids. Every solid is found to be made up of tubes or small vessels, through which the circulation or motion of the fluids takes place; so that the two are inseparable. Again, we find each solid composed of three very distinct, yet, in their smallest state, invisible vessels—so woven together as to exceed our imagination, much less our art to separate them. These three sets of vessels are nevertheless very different in their functions. They are—

1. The blood vessels, including heart, arteries and veins, by which all parts of the body are formed.
2. The nervous vessels, including the brain and nerves, by which all motion or capacity of motion is made.
3. The absorbent vessels, by which our food is taken up and carried to the blood, and every part of the body perpetually ab-

sorbed, or taken up, and carried to the blood vessels for re-manufacture or expulsion.

Thus these three distinct sets of vessels, yet inseparable, mutually acting on each other, keep up the perpetual interior motions of the body, through the agency of stimulants acting on the exteriors; in other words, constituting our excitability, on which stimulants act to produce excitement, or the phenomena of life.

PRINCIPLES UPON WHICH THE PARTS OF THE BODY ARE FORMED.

The principle upon which the various parts of the body are formed, has long been a subject of investigation, and very different views of it have been taken. It has been supposed to be the result of a kind of straining or filtration of the fluids, leaving the parts needed for the particular purpose wanted, while the rest passed on to the circulating mass. Again, it has been supposed to be the result of a particular action in the small vessels, converting or modifying the blood into the state or matter wanted. I advanced a new theory on the subject; and the following is taken from the fifteenth of my Discourses on Chemistry:

THE ARTERIAL BLOOD.

The arterial blood being properly formed, a most important question arises, concerning the means by which it is converted into the parts of the body, and into the secretions. This has long occupied the attention of those studying the nature of the animal body. The more I have reflected on this subject, the more am I convinced that the common modes of accounting for such phenomena, are far from being perfect. In my Inaugural Essay, I advanced a new theory on the subject, on which the more I reflect, the more does it appear to me to be the true explanation.—Of the correctness of this, I am further persuaded by the concurrence of some of the first characters in the country. But a few days have elapsed, since I was favoured with a conversation on this subject, with the learned Dr. Hosack, an eminent practitioner of physic, of New York, and Professor of Botany in Columbia College. This gentleman, without any hesitation, assured me

that he believed the doctrine to be correct. I mention this, with a view to induce others to examine it more attentively, that its merit or defects may be decidedly ascertained. It may not be amiss to extract the following from my essay, from which an idea of the theory may be formed:

When we view the animal machine, we are struck with the extreme vascularity of all its parts. This is so general and considerable, that the human body has been emphatically called a "collection of capillaries." In these capillary vessels, or small tubes, the most important operations are performed; for it is in these, that the blood is so wonderfully modified, as to be adapted to all the exigencies of the system. The most general operation we notice, is the conversion of arterial into venous blood. No part is exempt from this remarkable process, whereby the properties of blood become so materially altered. While we keep in view the uniformity and the simplicity of the operations of nature, we will account for this phenomenon on common principles.

It is an undoubted fact, that the form and properties of substances are variable, and depend on the circumstances in which they are placed. By experience and observation, we learn what changes can be produced, and what is necessary to produce them. For example: of water, we find that in a low degree of heat, the particles cease to roll on each other, and become so arranged as to constitute ice. In a higher degree of heat, another substance, the egg, is deprived of its fluidity; while the solidity of a metal is lost in the same temperature.

In accounting for such phenomena, we do not call in the agency of an intelligent *vis vitæ*, or uncommon principle; neither can they be referred to one of the agents separately. We are to infer that they arise in consequence of the natural tendencies or affinities of the substances, exercised in consequence of the circumstances created by lessening or augmenting the heat. Let us extend this plan of making inferences from facts, to the human body.

But a little experience is necessary to teach us that the arterial blood, like most substances, is susceptible of the greatest changes, and that these changes can be varied with the circumstances in which it is placed. For example, in the arteries we see it is of a vermillion colour; but, as Sir Isaac Newton long since observ-

ed, in a particular position it is yellow. We see, also, that it loses its fluidity when allowed to rest, or placed in a temperature above one hundred and sixty degrees. When allowed to rest, the coagulating lymph of the blood unites, and becomes solid.— This tendency of the lymph is also seen in the granulations of wounds, which being covered with it, readily unite together.— The coagulum formed by the union of the lymph, possesses some of the characteristics of life. These I presume are acquired in consequence of the union, and partial organisation of the lymph, effected by the attraction of cohesion. Such causes (as lightning) which prevent the coagulation of the blood, operate by changing the state necessary for its contraction.

When the blood is propelled to the small capillary vessels, in consequence of fibrous action, (which is the only effect of fibrous action we perceive,) the circumstances necessary for its continuance in the state of arterial blood no longer exist. On arriving at the commencement of the veins, it takes on the properties peculiar to it in that state of parts, *by the exercise of its affinities*, and is thus converted into venous blood. Here we see the agents, the solids of the part and the blood, as in the cases first mentioned. As the solids remain unaltered, the effects we should refer to the exercise of the natural affinities of the blood in the parts. just as we do the various shapes of water, eggs, and all other substances, in other circumstances.

If the above be correct, we are led to look upon the body as a laboratory in which the most important operations are performed. From the difference in the construction of its parts, we naturally conclude that various compounds are formed. And accordingly we find that different processes go on, and that compounds different from venous are formed from arterial blood.— These are the secretions so familiar to us all.

Physiologists, in accounting for the secretions since the rejection of the explanation on principles of mechanical filtration, have referred them to chemical changes wrought by the actions of the secreting vessels. The only effect of the action of a collection of vessels forming a gland, or secreting body, that I can perceive, is to propel or convey the blood through it; and indeed it is to me incomprehensible, how the motions of simple tubes or vessels could possibly produce changes in the fluid. I shall, there-

fore, waive the consideration of the conjecture, and proceed to account for the phenomena on the simple principles suggested above.

Although we be unable to detect the particulars in which one secreting vessel differs in its structure from another, yet on the slightest attention we can perceive a very material difference.—We can readily discover that the very delicate hand of nature has made an astonishing modification of even the most minute vessels. From the various structure of all the glands, the blood when conveyed in them, assumes in each, in consequence of exercising the affinities peculiar to it in the respective states, the necessary forms and properties. Mr. Home observes, that immediately on leaving the vessels, the secretions are fluid, and acquire their consistence shortly after. When the new properties are acquired, the ducts or other tubes convey them to the parts for which they were formed. It is thus, I presume, *by the exercise of chemical laws, or affinities regulated by states, depending on the mechanism of parts, that the successive supplies of all the secretions are created from the blood.*

If this explanation be admitted, the vague conjectures of physiologists relative to secretion, must be laid aside. In place of them we will have the plain facts, that nature was accurate and wise when she so made the solids of animals, that the fluids acquire in them by their own tendencies the necessary form and properties. Nor does she here demonstrate more forcibly a delicacy and wisdom in operating, than in the structure of her masterpiece, *the eye.*

Our theory has something more than simplicity to render it plausible. It will enable us to explain several phenomena which have excited astonishment. The resemblance of all venous blood, coming from parts secreting very different fluids, can no longer appear mysterious.

The formation of an oily matter after death resembling spermaceti, and, also, other secretions, are common occurrences.—Fourcroy, by a particular process, was enabled to form bile from the blood of an ox, which has been erroneously supposed to be a proof of its being formed in the blood. It must readily appear from the invariable laws of matter, that whether the necessary circumstances for the formation of a compound exist in the body

before or after death, or elsewhere are created by art, that such a compound would be necessarily created when the constituent parts are present. Hence this leads us to expect, that from the improvement of our arts, all the secretions may be formed by us at some future day.

There is a fact familiar to most of us, which tends to prove the correctness of these statements. This is the support which one animal receives from the secretions of another. It is true, that some of these are more nutritious than others. This in a great measure must proceed from a strong cohesion resisting the lesser tendency to assume the form necessary for nourishment. The secretions having a tendency to decomposition, afford a generous support, and fat and milk are among the most remarkable.—When these are swallowed, they are dissolved by the gastric juice, conveyed to vessels where they assume the form of chyle, and then pass on to the blood, and assume on the same principles its properties. Here we have, almost to demonstration, the same particles of matter in the shapes of a secretion, then chyle, then blood, in which last form it had existed.

There is a system of vessels whose office to the body seems the reverse of that of the secretories. This is formed by the *absorbing vessels*, which may be termed, also, the *supporting system*. While the first is engaged in diminishing the volume, the other is not less active in renewing the blood. It is in these vessels that chyle is formed from our food, and that all the secretions of our body, all tumors, effused blood, matter, &c. are returned to the blood. In this process, we find nature adhering to her beautiful simplicity. By a proper and uniform structure of these vessels, the various substances on entering them assume the same appearances, in consequence of their natural affinities in that state, just as they acquired other properties under different circumstances in other parts. When these new properties are thus acquired, it is conveyed to the blood vessels, where it is changed from lymph to blood. It is in this manner, in continued fevers, where no nourishment is taken for weeks, that large quantities of blood are formed from the secretions, the absorption of which must be accelerated during the general increase of fibrous action. This is confirmed by the circumstance, that the animals in the

north, during the winter, are entirely supported by the absorption of fat—a secretion deposited in their cellular membrane.

This statement of the principles on which the solids and fluids of our body are formed, will, I trust, aid in removing the false, erroneous notions, that the fluids are the cause of our disorders. They have nothing to do with disease;—they are necessarily formed from the state of the solids, as ice becomes water below the freezing point. The correction of error is a step to the attainment of truth. Remember, then, that it is not the bile which causes bilious fever, but the state of the liver; that medicines are given to evacuate—to change the condition of the solids—the bile itself being a purgative. In like manner, in dropsy we pretend not to correct the water. We give medicine to revolutionize or change the solids, when the general system is disordered—not to thicken or thin the blood; and so on for every complaint.

CIRCULATION OF THE BLOOD.

The circulation of the blood is effected through the heart, arteries, and veins, of which the general account is this: The veins from every part of the body gradually collect, and by means of two large trunks, unite near the right side of the heart, and deposit the dark-looking blood, called *venous*, into the heart on the same side:—this contracts and throws the blood, through four large arteries, into the lungs (or lights). Here it is spread over the inconceivably minute cells of the lungs, and is exposed to the action of the air we breathe. It receives some vital part from the air, and gives out some of its superfluous parts. This vital part of the air makes the blood of a very florid colour. It is then collected by the veins, and carried to the left side of the heart, which, by its powerful contraction, squirts or propels it all over the body for its various purposes. This produces a change again in its colour, from florid to dark, or from arterial to venous blood. It passes into the veins, and goes back to the right side of the heart, as at first stated, to be sent to the lungs; going through the same round as long as life lasts—perpetually renewing every part of the body, and supplying matter for all its secretions. It is this powerful action of the heart and arteries which causes our pulse, dif-

fering in frequency, depending upon our age and state of body.—Its variations are well known to be very great; but in general it is about, in the minute, in an infant, one hundred and twenty; a child of five years, one hundred; a person of twenty years, eighty; of fifty years, sixty; of ninety years, about fifty.

Besides the circulation of blood through the body for its various purposes, and through the lungs to receive the vital part of the air; there is a very different circulation through the liver, which secretes our bile—and it is of no less importance for our bodies. All other secretions are made by arteries, but in the liver it is effected by veins. The veins of the stomach, and all the parts connected with the digestion of our food, unite and go to the liver; there they divide into infinitely minute parts, and constitute the very substance of the liver. The veins are more feeble than the arteries, and the circulation of blood through them much slower: hence when the arterial action is excited, as by exercise or in fever, the veins act not so speedily, and of course the blood does not pass the liver as rapidly as it is sent to it from the large arteries of the bowels, spleen and pancreas, or sweetbread. In consequence, it is thrown back on the parts behind: they become stuffed or gorged, and consequently produce not only great disease in the stomach and bowels, but it is extended by sympathy all over the system. The obstruction operates just as shutting the mill-gate of a race, which causes the water to fall back to stagnate in the dam. This at once shews you the vast importance of attending to the liver in all fevers; especially of relieving the bowels by free purging—emptying them not only of their contents, but of the blood with which their vessels are overloaded, often the sole cause of the continuance of disease.

RESPIRATION.

Our power to inhale or take in air, arises from the action of the midriff, or diaphragm, aided by the motion of the ribs. The air penetrates all the cells of the lungs, on which the blood is spread by means of a cobweb kind of membrane. Here it imparts to the blood a florid colour and new qualities, indispensably necessary for life; as without them life speedily ceases. The quantity of air consumed or destroyed, so that it is unfit for breath-

ing, is about five square feet in the hour. Hence the all-importance of a constant supply of air in a pure state.

The lungs at the same time give out something—a kind of moisture and fixed air; but what substance they receive from the air, is not known. Various theories have been advanced: but I believe the truth is, they receive nothing but the latent heat of the air, which, uniting to the blood, enables it afterwards, on change of state, to throw out sensible heat, or the warmth of our bodies.—Hence nitric acid, and those things containing most latent heat, give generally to the blood its most florid colour. And it is a fact that the warmth of most animals is in proportion to the quantity of air they breathe. Those breathing most air, as birds, have a heat of about one hundred and six degrees; that of man's about ninety-six nearest the heart; that of fish is very inconsiderable.

Sometimes the skin, in part, performs the functions of the lungs, as in suspended breathing; the body becoming cold, and absorbing from the air its sensible heat. Hence persons are much more easily recovered from drowning in warm weather than in cold, as the body then receives most heat from the water, or air. When parts become cold in warm weather, it arises from the state of the solids allowing the blood to become in a condition to attract more heat. The remedy is, to alter the state by rubbing, motion, and application of stimulants.

PRINCIPLES OF DISEASE, AND ON WHICH CURES ARE EFFECTED.

It has been stated that health consists in equal action or excitement, effected by the proper application of stimulants on the capacity for life, or excitability. When these vary, disease exists: and it is in proportion to the variation. When stimulants operate too powerfully, the excitement is high: and that constitutes the inflammatory state, which exists in all high fevers, marked by active, full or hard pulse, &c. The remedies,—rest, cold, bleeding, purging, and other evacuants, operate by reducing the excitement of the system. All which adds to the action, must increase the disease: And this holds good with local, as well as general affections.

But when the excitement is too low, marked by quick, feeble pulse, and great weakness, the disease is called low, nervous or typhus; and the remedies are those which increase action—as bark, wine, &c. All evacuations which weaken the system, must of course be injurious: And this holds good with local, as well as general affections.

Now, as every disease may, at times, assume these two opposite states, it follows that what will cure in the one case, must injure in the other. Hence the absurdity of supposing there is any one cure for any one complaint. It is proper here to mention a law of the system respecting its excitability. When stimulants have been withdrawn, the excitability accumulates, and a little stimulus produces a great action. Thus a cold person, having his excitability accumulated from the abstraction of the stimulus of heat, on being carried to a warm place, is violently excited.—In like manner, the stimulus of spirit in the morning, when the excitability is accumulated at night, produces greater action than in the day; and so on of all stimulants. Now, when these stimulants operate violently, they produce indirect debility or weakness, as exemplified in intoxication, in eating too heartily after starvation, getting warm too quickly, &c.

It would have been well for our art if such important principles in medicine were always applicable; but a little experience will prove that a sick man requires something more than increasing or lessening the action or excitement of his body; though it be a most material object in the practice of physic.

Doctor Rush, our illustrious countryman, maintained that there is but one disease, which is irregular morbid action in the vessels; and that the object of medicine is to subdue this and equalize the action. My idea is, that the actions of the vessels have not so much to do with disease as an alteration in their state, condition, or ramification, or construction; and that the object of medicine is to change this state, that they may return to their natural condition. For it is an important means of cure to suspend a diseased action in the vessels, or alter their unnatural state; because then, the natural tendency of the system being not to go back to disease, it will assume the healthy condition or state.—It is with this view we revolutionize the system, by shocks of

cold, by violent vomiting, by great alarm, large doses of spirit, or opium, by bleeding to fainting, &c.

Again: another important principle on which cures are effected, is when disease exists in internal parts, to excite action on the surface. Thus, cupping, issues, blisters, &c. on the skin, relieve affections of the lungs, bowels, brains, joints, &c.

In other cases, where a peculiar disease exists, we cure by keeping up a stronger action in the body, or creating another state of the solids. Thus mercury, and other highly stimulating articles, cure the venereal, and other diseases of a peculiar or specific nature.

One of our most powerful means of curing diseases, is through the connection or sympathy of different parts of the body. A knowledge of these various sympathies is indispensably necessary for successful practice. In consequence of this sympathy, when one part is diseased, another part will take on diseased action.— Thus, when the womb is inflamed, there shall be great sickness at stomach in one person, in another affection of the breasts; the remedy of course to be directed to the part primarily affected.— Thus, when the stomach is disordered, there shall be excessive pain in the head. When the liver is affected any length of time, the skin, particularly of the face, takes on diseased action.— When the stomach is filled with putrid meat, for example, the skin will sometimes become spotted. When a wound is made in one of the extremities, often the parts near the junction of the limb with the body will become affected.

For example, in curing by means of this sympathy, we excite the kidneys to an increased secretion of urine, by water and salts in the stomach. We cause the dispersion of large collections of matter, by the administration of an emetic, by cold, and so on.

This short view I have given of a few general principles, I hope will at least be sufficient to make such a forcible impression on your minds, as will for ever root out all belief in great cures by quackish or particular prescriptions. Nothing can be more certain than that each case of disease requires the exercise of sound sense for its treatment. The administration of an article to one patient, because it cured some others, must of course be improper, unless there be reason for believing that the state of the different

persons is alike. Admitting what I have advanced to be true, can you put further faith in stories of great cures by treatment contrary to principles—to common sense; although many should tell you—although you might fancy you saw the effect yourself? Such instances of recovery only show the power of nature in restoration: the supposed remedy was not the instrument. Could you believe that any stimulating article, as brandy or opium, or the like, could cure an inflammatory fever? or that heat, restlessness, food, or stimulating drinks, could fail making it worse?—Could you believe that in diseases of low action, called nervous or typhus, that great evacuations would fail to make it worse, although an hundred told you to the contrary? Indeed, you may rely on it, although sometimes it may appear very difficult to dose a person to death, there is not one disease which ought not to be treated according to principles, and not one to be treated according to “guessing.”

MATERIA MEDICA,

OR

MEANS OF CURING DISEASES.

I HAVE to remark, that in no one of the departments of medicine, has there been more absurdities and falsehoods published, than in this called “materia medica,” or means of curing diseases. Not an age has elapsed, without the substitution of new and abandonment of old articles. Instead of studying the most judicious use of the most simple and common means of relief, there has been a general search after some rare and wonderful remedy for disorders. Professor Chapman, of Philadelphia, in his work on this subject, says, “There never was a science so overcharged with superfluous lumber, as the materia medica in its present state. I have with intrepid decision endeavoured to cleanse this accumulation, by expunging whatever substances are known to be inert or redundant.” It is my intention to follow the example of

the Doctor; confining myself to articles which may be safely trusted in the hands of all, with proper directions: and these, too, are chiefly those of intrinsic worth, in the treatment of nine hundred and ninety-nine diseases in the thousand. I have no hesitation in declaring it—and I am sure no good physician will deny its truth,—that, by seasonable *exercise* and *rest*; by *diet* and family *drinks*; by variations in air and water, from cold to hot; by *irritations* of the skin by hard rubbing, scarifications, cupping, blisters, whipping, and burning; by purging, glistering, and puking with the most common articles; by fomentations, poultices, and simple ointments; by occasional compression; and, lastly, by bleeding, which ought to be universally understood;—ten thousand times more good can be done, than by every article in the apothecary shop.

QUALIFICATIONS OF ATTENDANTS ON THE SICK.

THERE is very little doubt but that recovery from sickness depends materially on the nurse, or attendants upon patients; as well upon refraining from officious interference, as giving timely attention. All the necessary qualifications can seldom be found in any one; but the nearer they can be got to follow the following directions, the better:

Great attention to cleanliness of the mouth, the body, the bed, and the room; often washing the mouth, and speedily removing all filth; changing the clothes with as little labour to the sick as possible—the greater the perspiration, the more frequently.

Keep the room always of a moderate, temperate degree of warmth, regulated by the season, with that all-important article, more wanted in sickness than in health, *fresh* air, to be gently admitted without a current, and therefore requiring no bed-curtains.

Keep quiet; disturbing the sick as little as possible, by talking or making any kind of noise; never communicating any bad news,—remembering that perfect rest to the patient is of great importance.

To administer with faithfulness, and in the most palatable state, the medicines prescribed, and observe their effects: which report to the prescriber. Unpalatable pills may safely be surrounded by a thin piece of paper, or gold leaf; the great disgust to medicine being frequently caused by the nauseating manner in which it is given.

Have in readiness a bed-pan; and never suffer the patient, when very weak, to set up on it long, as in that state they often expire from exhaustion. A cheap and ready mode, at all times, of making a proper pan, would be to saw down a piggin to a depth of three inches, on which a top can be placed, with a hole in it like that of a necessary.

To keep constantly a supply of various articles for drink, in a proper state, of the weak kind of teas, in addition to such medicinal drinks as are prescribed, which, when solely enforced, prove disgusting: remembering to give but small quantities at a time; not very cold, as they increase thirst. Drinks can be made of any of the garden herbs generally used for teas; of toasted bread, barley; of apples, cut up in water; of gruel, elm-bark, flax-seed; of lemonade; of chicken, or lean fresh meats; of tamarinds, vinegar, or cream of tartar; of currant jelly: in short, of any thing ever used in families, possessing no stimulating powers. Spirit, in any state of combination, wine, porter, cider, and the like stimulating drinks, unless particularly directed, or called for from fainting or the disease of the patient, must be carefully avoided.

Diet is a subject, too, to which the nurse should pay the greatest attention. As this must vary with each varying state of the system, it is impossible to give any further directions in this place, than to state, that in high fevers, it should be very moderate, entirely of small quantities of vegetables; and that in low fevers, it should be of well-seasoned, palatable food; the more like that the sick person had been accustomed to, the better: but taking care to give it often, and little at a time, as a full meal, in such states of system, often produces death.

GLYSTERS.

Administer a glyster when required, of whatever article directed. These often operate only by their bulk; and, unless given as medicine, their component parts are not material: they are generally made of warm water, with salt, or soap, or sugar, or oil; and the common glyster-syringe is the instrument used. In order to give it, the patient should be laid on the side at the edge of the bed; the bottom a little over the edge; the knees drawn up near the belly; and then the pipe, with the finger before it, is to be applied to the fundament; and on pushing it in, the finger is to be taken away. It is gently to be pushed (the operator's hand is to be near the thighs,) a little backwards, or towards the back bone, and then the contents is to be forced out by pushing gently the handle of the syringe with one hand while with the other the syringe is firmly held, or by squeezing the bladder when it is used. On introducing the pipe, it is best for an assistant to hold open the cheeks of the patient's bottom. A small pewter squirt will sometimes answer in giving injections, as well as the largest. It only requires that the injection should be made stronger, to irritate and excite the lower part of the gut, which brings on the action of the rest of the bowels by sympathy.

CUPPING.

An ability to cup is a very necessary qualification for attendants on the sick. It is an operation, so easily performed, and often so important, that all ought to learn how to do it. If blood is to be drawn, the part ought to be cut in many places, each cut about the length and distance of a finger-nail apart; the cut only deep enough for a little blood to flow; then a glass, or a mug, or a gourd, of suitable mouth, is to be taken from a basin of hot water, and fitted to the part; then a bit of paper, about as large as a dollar, dipt in spirit, is to be held near the cupping-glass, and set on fire by a candle, when, as soon as it blazes, the cupping-glass being leant on one side, the burning paper to be quickly thrown into it, and then the glass applied close to the skin, as when first fitted. As the paper burns, the air will consume, and there-

by cause the extraction of the blood. Paper burnt brown, or any very inflammable article, is often made to answer; but the use of spirit is to be preferred. This is an operation which any one can perform; it being very frequently done by the old negroes. A small quantity of spirit put in the cupping glass and set on fire will answer without paper: and its blaze is less apt to burn.

DRESSING BLISTERS.

An ability to dress blisters is very requisite, and easily acquired. If it be desirable not to keep the blister running, then make a very small opening with a needle or scissors, and let out the water very slowly, holding cloths to absorb it; and apply to the part collard leaves, freed of their stem, warmed and rubbed before the fire. Plasters of tallow, or suet, or of hog's lard, will answer. When the blister is to be kept running, the skin should be cut off with scissors, and such stimulating ointment applied, as shall be directed. Basilicum ointment is often used, as also a very weak blistering plaster.

BANDAGES.

The proper application of a bandage, ought to be well understood. That most commonly used is a long piece of cotton, linen, or flannel, about three inches wide, rolled up smoothly;—its application is to be equal, compressing no one part more than another: and to insure this, you begin at the extremity of the toes or fingers, and wind it around, making each edge lap an inch over the other; and when the part over which it goes is irregular, the bandage is to be so turned, edge for edge, that it shall become suited to the bulging or irregular parts it has to pass over. This, properly applied, is a powerful remedy in sores; but does great harm when put on so as to produce unequal pressure, interrupting the circulation, and thereby increasing the disease.

There is another kind of bandage called the eighteen tailed bandage—because generally made of that number of slips of cotton or linen, of length sufficient to go once and a half around the part to be bound up. This is used when it is improper to move the

limb. These detached pieces, in number sufficient to bandage the part needing it, are put under the limb at its first dressing—one to overlap the other about an inch; then the ends are to be wound smoothly around the limb, the one end over the other; and they of course will lap half around the part and each end will bind the other. When they are to be removed for dressing, and are found filthy—each can separately be pulled out with a clean one attached to its end, and in that manner carried to replace that removed, without moving the limb.

BLEEDING.

The next qualification which I shall mention, and believe ought to be nearly universally understood, is bleeding. Were the ability to do it general, many lives would be saved, which otherwise might sink from the want of its timely relief. When it is desirable to bleed at the bend of the arm, the first object is to tell the situation of the artery; it will be found beating, a little below the middle towards the lower part: This is to be noticed; and the common bleeder should never bleed near it, but as far from it as he can. About two or three inches above the elbow, a bandage should be applied, and drawn so tight as to prevent the blood from passing up in the veins, but not so as to prevent the feeling of the pulse at the wrist;—then the operator is to feel for a vein not over the artery, and with his left thumb press on it, as his fingers grasp the arm; he is then to hold firmly the lancet between the right thumb and finger; to let the three other fingers rest on the patient's arm, and gently in an oblique or sloping direction push the lancet into the vein, and carry it forwards, (not downwards,) until the blood oozes out below, when he is to take it out. It is wrong to push the lancet in suddenly, as some do. The operator should understand what he is about, and be cool and collected. It would be well for the patient to clench his fist, and for the operator to push up the blood towards the bandage, before operating. If the blood do not flow freely, the pulse should be examined, and if not perceived, the bandage is to be loosened.—The arm ought not to be moved while the blood flows, as the skin may get over the opening in the vein, and the blood collecting under it will form a dark tumour, called Ecchymosis. For

the cure of this, perfect rest, cold washes of vinegar or brandy and water, or a solution of sugar of lead, are generally sufficient.

When a sufficient quantity of blood is taken, the bandage is to be removed; the arm elevated perpendicularly; then wiped; the orifice in the vein is to be closed with the thumb and finger; when some folds of a rag are to be applied to it, and kept in place by a bandage drawn above and below the elbow, not so as to impede the circulation.

Sometimes there is a difficulty in stopping the blood; and also the arm bleeds a second time:—you should then keep the arm for some time elevated, hold the lips of the opening together for several minutes, apply cold water to the arm, and then renew the bandage as before. The longer the arm is kept elevated and quiet, the better. A large covering of sticking plaster will often stop the bleeding.

When a bleeder has been so fool-hardy as to cut over and into the artery, it is known by the very florid colour of the blood, and its coming out by jets. This requires more of the above efforts in stopping the bleeding, and an instantaneous resort to surgical skill for taking up the artery.

In order to bleed in the foot, a bandage should be tied around and above the ankle, and the most elevated vein carefully opened. The point of the lancet should not be pushed far downwards, as the tendons underneath might be wounded. By putting the foot in warm water, the flow of blood is expedited.

Bleeding at the temporal artery is a very simple operation; and when blood cannot be taken safely from the veins, it may and should be got from the temples. By feeling a little above the ear the artery may be felt beating: and any one may safely cut down to it with a common lancet. The best place is about two inches above the ear. The operator, feeling the artery, is slowly to cut the skin, in the direction of the course of the artery, near half an inch. Then with the thumb and finger of the left hand he is to open the cut, and wipe the blood off: when, on seeing the motions of the artery underneath, he is to make a small puncture across it, or in the direction opposite to the first cut in the skin. If the blood do not flow freely, warm water should be used to wash off the clots of blood, or the opening may be enlarged. In some cases, it may be requisite to cut the artery nearer the ear.

When sufficient blood is taken, a piece of adhesive plaster may be applied to the wound—the edges of which should be brought close together; a moderate compress dipped in cold water and kept on the opening by a bandage around the head, may stop the bleeding:—Sometimes, however, to do this, it is necessary to divide the artery entirely.

TO APPLY THE WARM BATH.

The next qualification I shall state for the attendants of the sick, is an ability to apply judiciously the warm bath. This powerful remedy is often rendered useless by the injudicious manner of using it, and the unnecessary labour taken to prepare it. Bathing the feet may be done underneath the bed clothes—the patient drawing the feet up near his bottom, where the tub is to be placed. When general bathing is required, the best mode is to heat stones, or irons, and put them in the water as is done for scalding hogs. A common barrel, or half pipe, leaned on one side, with a large opening in the upper part of the staves and half the head taken out, makes an excellent as well as convenient bathing machine.

But the chief advantages of a bath may be obtained by steam, and with little trouble. If the patient be weak, he should be rolled on a fresh blanket at the side of his bed, and half of the blanket thrown over him. Underneath this, a piggins of water should be placed and hot stones or irons put in it as long as necessary.—When discontinued, the patient should be wiped underneath the blanket; and dry and warm clothing being prepared, he can be rolled over on it without the least exposure to cold air. His head should never be underneath the blanket while he is *steamed*, unless it be desirable to produce profuse sweating. And when the steam is only required for his lungs, it is only necessary to cover his head: and with a small vessel of water and hot stones, all the advantage can be derived that ever was had from the famous inhalers, and their substitutes coffee and tea pots, which have often ended in scalding the patient. In consequence of the great saving of trouble from these contrivances, as well as the expense of bathing machines, the use of the bath should be more general when circumstances call for it. Indeed, the great neglect of this

important remedy can only be attributed to the heretofore difficult task, or preparation of the necessary means; which will certainly be obviated by an observance of the mode suggested.

PRECAUTION IN FEVER.

Remember never to let a patient confined with a long continued fever, remain more than half a day laying on one part; as the compression, if too long continued, will produce mortification on the part, and the most dreadful sores: often more annoying, more painful and fatal, than the original disease. From neglect of this precaution, I have seen almost half the back destroyed—particularly about the buttox, the shoulders, and the hips.

When patients have got over their fevers, great weakness remains: and slight efforts, unless very judiciously made, are apt to prove fatal. In taking exercise, in evacuating the bowels, the utmost circumspection becomes necessary. A person much reduced may as readily die of weakness as of disease: and should, in this exhausted state, be watched with that kind of care and attention one bestows in raising the flame of a sinking lamp.

POULTICES.

Lastly, to make poultices properly, is no unimportant qualification. The chief object of them, is to relax the skin over which they are placed and allay irritation. When made of Indian corn meal or bread and milk, they should be soft, and the part going in contact greased. The best is made from the powder of flaxseed, made by pounding it or grinding in a coffee-mill.—The powder is gradually to be added to hot water and stirred until it is of proper consistence. A poultice made of slippery elm bark cut small and boiled with a little meal, is very soothing: as also, one of a thick jelly of water-melon seed, obtained by well boiling the seed in a little water. In most cases the chief good is derived from the moisture or warm water, which can be fully had by simply dipping cloths in hot water and applying them, to be removed on becoming cold.

CLASSIFICATION OF MEDICINES.

BEFORE detailing this, I will observe that the mode by which medicines operate on the body, has long been a subject of investigation. They were supposed to affect the fluids of the system, and hence were given to lessen their acrimony or *sweeten* them, as many have termed their effect; to thicken or thin or in some way to purify the blood. But it is now admitted by all the intelligent of the faculty, that medicines operate on the solids, and affect them through the nervous system, which gives the solids the capacity or susceptibility of being acted upon: and, moreover, that it is through the connection or association of one part with another, called sympathy, arising from the nervous system, that medicines affect various parts of the body when applied to some other and often most distant part. The effect of some medicines is so quick that it is not possible it can be by any other mode; for when a person takes a large dose of laudanum, or strong spirit, or tobacco, or fox-glove, or any other poison, he instantly falls down, deprived of strength and sensation. Surely this can only be through the nervous system, in these cases; and it is the case in the operation of all medicines.

I repeat the remark, that the medicines wanted for common practice are very few: although such an immense variety is to be found in apothecary shops. They are all arranged under different heads, according to their most conspicuous effects upon the system: a very defective mode, but the best which has been adopted. Under each head I shall mention those deemed of most importance in common practice: But I shall state the remainder, as some of them may be preferred by others.

It is to be remembered that in taking physic of any particular kind, the system becomes habituated to it and requires an increase of dose, just as persons require an increase of spirit, tobacco, &c. Therefore that medicine of a similar nature ought often, when practicable, to be substituted for the one previously taken.

The doses stated are for adults: and are of course to be varied to suit the state of the patient; as what would be very proper in a strong, vigorous state of the body would produce death in a delicate or reduced person. The doses for children are not men-

tioned: because as they want but few, it is more proper to state them when treating of their complaints. As a general rule,—but it must be considered as exceedingly exceptionable, and requiring always the exercise of a sound discretion,—the dose for an infant under one year old, is one-twelfth part of that for a man: a child of five years old, one fourth; of ten years, near one-half—and so on.

1. STIMULANTS.

These are medicines which excite a general action over the whole system: but of short duration; exemplified in the effects of a drink of grog. A rule respecting them, when they are required, is that they are to be frequently renewed: the quantity gradually increased: and the kind changed. The most common and the best, are our much-abused intoxicating liquors in the various shapes of spirituous liquors, wines, porter, ale, cider, &c. Those which are considered of the strictly medicinal kind, are—

Spirit or Oil of Turpentine. The dose is from three to four tea spoons full.

Sulphuric Ether. Dose from one to three tea spoons full, mixed in half a tea cup of water.

Spirit of Lavender. Dose about a desert spoon full.

Volatile Alkali, called Volatile Salts. Dose from ten to fifteen grains, made into a pill with syrup. Of the same nature is

Spirits of Hartshorn. Dose from one to two tea spoons full.

Tobacco, particularly on those accustomed to its use, operates as a powerful stimulus.

Teas of Hops and our garden herbs, as well as of those imported, are also of this class.

Garlic and Onions are stimulants as commonly used; and also all the pungent articles of gardens.

Opium and its preparations of Laudanum and Paregoric, in small doses, are equal in stimulating power to spirituous liquors.

Blisters are often used to stimulate the whole system, and

Mercury stands first on the list of permanent stimulants, and is of an all-pervading character when taken in small doses of Calomel and long continued.

Articles to irritate the nose, as Volatile Alkali, Snuff, Assafætida, burnt Feathers, and any thing very offensive, are sometimes properly used to rouse to momentary action. Sudden burning and irritating the skin by whipping, have often done good in rousing the system.

All the *Stomachics* and *Cordials* in common use, particularly the various essential oils of Peppermint, Cinnamon, &c.; all our Spices, as Pepper, Ginger, &c.; are often used to rouse the whole system to action, and with very good effects. While referring to stomachics, it may be as well to mention those producing discharges of wind from the stomach, called

CARMINATIVES, as

<i>Caraway,</i>	}	<i>Seeds.</i> Taken in the form of strong teas.
<i>Dill, and</i>		
<i>Fennel</i>		

Calamus Root, procured from our marshes, when *chewed* and swallowed, proves a valuable article in expelling wind: and so are Spirits of Hartshorn, and of Turpentine, and of Peppermint, and most of the pungent articles of our gardens, as Horse-radish and Turnip, &c.

Peruvian Bark Bitters, and in short it is difficult to say what is not a stimulus when properly managed: from every medicine ever used, to bleeding and cold water suddenly thrown on the body. In over doses, they all suddenly prostrate the powers of life, as do Spirit and Laudanum.

2. ANTI-SPASMODICS

Are those stimulants which are supposed to remove spasm, or a kind of cramp in parts of the body. Of these the most remarkable are—

Opium and its preparations in large doses, depending on the urgency of the case.

A draught of hot Toddy.

Sulphuric Ether. Dose a small table spoon full.

Asafetida. Dose in substance, eight or ten grains: in Tincture, three or four tea spoons full.

Musk. From ten to twenty grains.

Oil of Amber. From ten to twenty drops.

Essence of Peppermint. In very large doses.

But among the means of removing spasm, the best I ever applied, are free use of the Warm Bath, bleeding, fomenting, and hot applications to the skin, over the parts most affected.

3. ANODYNES.

These allay pain and produce sleep, as exemplified in the effects of Laudanum on most people. The chief on this list are—

Opium, in doses of from two to five grains.

Laudanum, made by dissolving an ounce of Opium in a pint of spirit, of which fifty drops are equal to two grains of Opium.

Paregoric, made by adding half a drachm of Opium, or its equal, one ounce of Laudanum, to a pint of spirit, and mixing with

them half a drachm of Flowers of Benzoin, the same quantity of Oil of Aniseed, and one scruple of Camphor. The dose three or four tea spoons full.

Spiders Web, formed by the black spider, taken from dark cellars and barns, has lately been highly extolled for its anodyne effect. It is taken in doses of five grains.

Hops. Of which a strong tea may be taken.

The Warm Bath and Bleeding very, frequently relieve pain and produce sleep, especially in high fever.

There are some other medicines besides the above, sometimes used to relieve pain. I never used them for the purpose, or saw them used.—They are the Fox-glove, Nuxvomica, Tobacco, the Woody, the black and the deadly Night Shade, black Henbane, Jamestown Weed, &c.

4. TONICS.

These are medicines which are supposed to act particularly on the fibres of the body, by giving them tone or strength, exemplified in the effects of the famous

Peruvian Bark. Of this there are three kinds—the *red*, the *yellow*, and the *pale*. It is difficult to say which of these is the best; but I would recommend to procure that which is fresh and least in demand at the time, as the temptation to adulterate is least. The dose is from two to four tea spoons full in a wine glass of water, taken every three or four hours when there is no fever. When it does not agree with the stomach, it is given in decoction or infusion, made by adding an ounce to a quart of hot or cold water: to which, as to the bark in substance, is often judiciously added a little Virginia Snake-root, or Ginger, or Lemon-peel, or any of the cordials—particularly wine, spirit, &c.

Dogwood Bark,
Red Oak Bark, and
Bark of the Wild Cherry Tree, } Reduced to fine powder, and ta-

ken in doses of thirty or forty grains, or drunk in strong decoction, will be found nearly as good as the Peruvian Bark.

Angustura Bark, in doses from five to twenty grains, is by some esteemed equal to the Peruvian.

Columbo Root, in doses from twenty to thirty grains, or taken infused in water or wine,—an ounce to the quart—is a powerful tonic.

Gentian Root and *Quassia* are among the strongest bitters. A very common bitter tincture is made of two ounces of Gentian, one ounce of Orange-peel, and half an ounce of Canella Alba, in a quart of spirit or wine; and it is a tonic.

Bitters, in general, give tone to the system; and among those most used are—

Chamomile Flowers, Hops, Virginia Snake Root, wild Horehound, wild Centaury, and *Wormwood,* all separately or in combination, made in strong decoction, or added to wine or spirit, make agreeable and mild bitters.

Charcoal in powder, in doses of a tea spoon full once in two hours, has been found a valuable tonic.

Vitriolic Acid, diluted as in the Elixir Vitriol as it is called, in doses of thirty or forty drops, with so much water as to render it palatable, is considered a tonic, and is often given with Bark and Bitters.

Nitric Acid. This is a most powerful tonic; especially in chronic affections of the liver and patients exhausted with Mercury, or the venereal disease. It is generally given a drachm in the course of a day, diluted in a quart or more of water, and sweetened to render it palatable. To be drank through a quill, to save the teeth.

Arsenic in substance, made into pills, each containing one-eighth of a grain, is one of the most powerful tonics ever used. To make the pills, take four grains of Arsenic and a tea spoon full of flour: mix them well, then with water make a paste, and divide it into thirty-two pills: of which, one is a dose, taken two or three times a day. But it is better to take it in the form of the solution called *Fowler's* and sold as *Ague and Fever Drops*, of which the dose is from four to six drops, two or three times a day: and like the medicine in substance, is to be gradually increased.

Iron has long been considered as a tonic—not only when in substance, but when in solution, as in the state of chalybeate waters. The filings of Iron were once much used; but a better form is the *Rust of Iron*, in doses from five to ten grains, thrice a day,

Green Vitriol. Dose from two to four grains, twice a day.

Tincture of Steel. Dose from fifteen to thirty drops, thrice a day.

Chalybeate Waters owe their strengthening qualities to Iron, which is dissolved by the agency of fixed air. By putting a few grains of the rust of Iron in a bottle, and having it filled with the common *Soda Water* as it is called, as valuable a chalybeate drink may be had as from any of our springs, to which so many resort.

White Vitriol, in doses of two or three grains, has occasionally been given for its strengthening effects; and so have preparations of Copper, Silver, Bismuth, &c.—articles seldom used.

Tonics are not to be given in high fevers. Doctor Chapman, in his work on this subject, judiciously lays down the following outlines for the administration of tonics to overcome debility:

1. Let the diet of the patient be accommodated to the state of the system. After recovering from violent disease—it should at first consist of the lightest vegetable matter, as Rice, Tapioca, Arrow-root, and Sago, also Irish potatoes: Then Eggs, Oysters,

Wild-fowl, Poultry, and finally Beef and Mutton: generally selecting that article most agreeable.

2. Let the patient always eat much more frequently than at other times; as the stomach, like a school boy, is always doing mischief unless well employed.

3. Solid food is to be preferred: and, also, the more simple the article the better.

Next, he says, in point of strengthening power, is the Hot and Cold Bath. The Hot Bath acts directly as a stimulus; the Cold acts differently, at first producing languor and depression, after which the system re-acts and is invigorated. It is not to be used when the system is debilitated by fatigue or in a state of perspiration: It is best used in the morning or mid-day. In the warm Bath the patient may continue longer. On coming out, the patient should be wiped dry. The cold bath should not be continued when followed by great depression for a length of time. Frictions on the skin may then be applied freely: and stimulating articles, as Salt, Red Pepper, Acids, &c.

5. ASTRINGENTS.

Medicines which act so as to stop the discharges from the body, whether of blood or any of its secretions, are called astringents, and they are generally allied to tonics in their effects.

Sugar of Lead, in doses of from two to five grains in urgent cases, I believe to be the most certainly to be relied on. But in mild cases, it ought not to be used until others shall have been tried.

Nut Galls in powder. The dose from ten to twenty grains.

Black-Berry Root. That of the running brier, called *Due Berry*, is the best. An ounce of it bruised and put in a pint of water. The dose about half a cup full, repeated often.

Alum. The dose five to ten grains: also small doses of *Rhubarb*.

White Oak and Chesnut Bark, in substance or strong decoction, are powerful astringents.

Gum Kino and Catechu come under this head. The dose of either is from ten to twenty grains.

Sulphuric Acid, diluted with water to be palatable and freely drank, was formerly highly esteemed.

Lime Water, particularly when acid exists in the stomach, has a similar effect. The dose is a tea cup full, with equal quantity of milk.

Opium in substance and *Laudanum* are sometimes used with great success in restraining profuse discharges.

Common Salt. A table spoon full Dr. Rush recommends, to stop bleeding of the lungs. The dose may be repeated.

Charcoal in powder, in small doses, has an astringent effect upon the bowels: also when applied to bleeding parts—as the nose, gums, &c.

Cold Water is ranked amongst the most useful of astringents.—It is the best application for local bleedings.

6. EMETICS.

Medicines to excite vomiting, are commonly called Emetics: Their operation is to be kept up by drinking warm water.

Ipecacuanhæ is the mildest of these. The dose is from fifteen to twenty grains.

Tartar Emetic is the medicine most generally used for exciting vomiting. The dose is six grains, in as many spoons full of warm water; one of which is to be taken every ten minutes until it freely operates. It is often preferred in the state of

Antimonial Wine, which is made by adding two scruples of Tar-
tar to two ounces of hot water, and when it is dissolved add-
ing half a pint of White Wine. The dose is about two tea
spoons full every ten minutes, until it operates.

White Vitriol is the most expeditious of the emetics. The dose
about twenty grains in a cup of warm water.

Blue Vitriol is sometimes given for vomiting. The dose from
three to five grains dissolved in a wine glass of warm water.

Tobacco in snuff, or a little in tea, has been occasionally used
when other emetics were not at hand.

Squills, in doses of ten or fifteen grains.

7. PURGATIVES.

Medicines which increase the discharges from the bowels are
called purges. These, when used to produce but slight effect, are
termed *laxatives*. Their operation is to be promoted by mild
drinks. The most commonly used are—

Calomel. The dose fifteen or twenty grains in form of a pill.

May Apple,
Jalap, and } the roots. Dose from forty to fifty grains, mix-
Rhubarb, }
ed in syrup or warm water.

Olive }
and } *Oil*. A common wine glass full, with a little spirit.
Castor }

Gum Gamboge. From four to eight grains, powdered and made
into a pill with syrup.

Aloes. From four to eight grains, powdered and made into a pill
with syrup.

Glauber }
 and }
Epsom } *Salts.* One to two table spoons full. Only half the quantity when they have dried into a white powder. The dose is made less unpleasant, if Lemon juice or a little Vinegar be added to the solution.

Magnesia calcined. Two tea spoons full, to be taken in milk or water. The uncalcined dose to be a table spoon full.

Cream of Tartar. A table spoon full in a tumbler of water.

Manna. One or two ounces dissolved in hot water.

Flower of Sulphur. From five to ten tea spoons full.

Ox Gall. Two small table spoons full purge freely.

Charcoal in powder. One table spoon full in thin syrup.

These medicines should in general be taken on an empty stomach, and in a state of combination with each other. The following are common and valuable combinations:—Fifteen grains of Calomel with one of Tartar Emetic. Ten of Calomel and twenty of Jalap. Three of Gamboge with ten of Calomel. Twenty of Rhubarb and thirty of Magnesia. Salts, Sennae, and Manna, of each half an ounce in a pint of hot water, to be taken one-fourth every hour. Cream of Tartar and Sulphur, equal quantities about a table spoon full. To a dose of Salts add a grain of tartar. A very good compound, ridiculously called *Anti-Bilious Pills*, is made of five grains of Calomel, ten of Jalap, two of Gamboge, and half a grain of Tartar Emetic.

In order to arrest the too violent operation of purges, give a dose of Laudanum of twenty or thirty drops, or an injection of twice the quantity, applying hot cloths to the stomach.

Sometimes the bowels are in a torpid state and purgatives will not operate, although a variety be given and in large quantities. In these cases, instead of continuing to administer so much medicine, which may kill, as I have known it do when the sensi-

bility of the bowels became restored,—no matter what season—pour over the patient's belly a pitcher of the coldest or ice water.—The success attending this extraordinary practice—which I early learnt, but do not recollect where,—once gave me an extensive practice in a neighbourhood near the place I then lived.

8. DIURETICS.

Medicines which increase the secretion and discharge of urine, are called Diuretics. These are principally,

The mild vegetable Alkali, called Carbonate of Potash. Dissolve half a drachm in a pint of water; to be taken in a day, in five or six equal parts.

An ounce of Cream of Tartar in half a gallon of cold water, drunk in the course of the day.

Nitre, called Salt Petre, one drachm dissolved in a quart of water or any tea, to be taken through the day.

Spirit of Nitre, in doses of a table spoon full, mixed with a glass of water. Dose to be repeated twice a day.

Root of the common garden Parsley, taken in strong decoction in the course of the day.

Doctor Chapman calls these the mild Diuretics; to which I would add—drinking large quantities of cold water, of Soda Water: of Cider and water: of weak Lemonade; the operation of which will be expedited by exposing the surface of the body for a little time to cold air, or water in the shower bath.

The more powerful Diuretics are—

Fox-glove, called Digitalis. The dose in substance, is one grain of the powder of the leaves in a pill, morning and night. Of the Tincture, the dose is from fifteen to fifty drops: the quantity to be gradually increased.

Tobacco—one ounce infused in a pint of water, of which fifteen or twenty drops make a dose,—has been used sometimes with advantage.

The stimulating Diuretics are—

Spanish Flies. The dose in substance, is one grain: of the Tincture, from fifteen to forty drops.

Venice Turpentine. Dose five or six grains.

Oil of Turpentine. Dose from one to two tea spoons full.

Balsam of Copaiva. Dose thirty or forty drops.

Squills, or Sea Onion. When dried, the dose is from three to five grains: of the syrup, a desert spoon full.

Vinegar of Meadow Saffron, or Colchicum. Dose a tea spoon full.

Seneca Snake Root, reduced to powder. Dose twenty grains.—
Also taken in decoction, an ounce to a quart of water.

9. SUDORIFICS.

Medicines which excite perspiration are called diaphoretics or sudorifics. As this may be excited by such a variety of means, it is impossible to be precise on the subject. The state of the skin depends very much on the state of other parts, particularly the stomach, lungs and brain. Any thing which affects the one, affects the other.

Antimony, in its various preparations, affects the stomach, and through it, the perspiratory parts. At one time, the golden Sulphur of Antimony was much used in broken doses three or four grains. The *Antimonial Powder*, analogous to the once celebrated *James' Powder*, in doses of six or eight grains, is now much used. But by far the most frequent and the best mode of giving Antimony, is in the form of a weak so-

lution of Tartar Emetic, in small and repeated doses, to keep up a slight sickness at stomach, which is almost universally attended with perspiration. This is often given in combination with Nitre and Calomel, forming a favourite medicine of Doctor Rush and his pupils, called the *Nitrous Powders*. The directions for making them are—to sixty grains of Nitre add sixteen of Calomel and one of Tartar Emetic: mix them well together, and divide into eight powders, of which, one in a little syrup is to be taken every two or three hours. The Calomel is to be omitted, if it excite purging, or if any salivation be apprehended. The sweating power of Tartar Emetic in weak solution, is sometimes increased by adding a little Laudanum or Paregoric to each dose. Equal quantities of Spirit of Nitre and Antimonial Wine, also make an excellent compound. The dose is one, two, or three tea spoons full.

Ipecacuanhæ, in doses of one or two grains, repeated every two or three hours, is a valuable medicine to excite perspiration. Added to Opium, in fine powder, it is still more powerful; and in the celebrated *Dover's Powder*, in doses of about ten grains, is considered as one of the most invaluable medicines under this head: especially in cases of chronic rheumatism, where it is desirable to excite sweating.

Camphor, united to small quantities of Opium, Tartar, or *Ipecacuanhæ*, is a good medicine of this class.

Volatile Salts, or carbonate of Ammonia, alone, in doses of ten grains; or added to strong Vinegar until it ceases to boil, (or effervesce,) forms the *Spirit of Minderus*: very celebrated for its tendency to excite sweating, in the fever following the common fall agues. The dose is a table spoon full every hour or two.

<i>Pleurisy,</i> <i>Seneka, and</i> <i>Virginia Snake</i>	}	<i>Roots</i> , in strong decoctions, are also highly valued for their sweating powers. They should be drank
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warm, and repeated at intervals. Mezereon, Sarsaparilla, Liquorice Root, and Savin, in decoctions separately or blended, have a similar effect. The general rule for administering them, is to put an ounce in a quart of boiling water, and give a cup full every two or three hours.

Powerful means of exciting perspiration will be found in the use of the Warm Bath or of Steam, as pointed out in the qualifications of attendants on the sick; during the use of which, large draughts of warm water or weak teas should be freely taken.—When perspiration is excited, the utmost caution should be observed to prevent its too sudden suppression by exposure to cold air, or clothes; and to prevent its continuance too long, to endanger by weakness.

10. ANTI-ACIDS AND ANTI-LITHICS.

The medicines used to destroy acids in the stomach and bowels, are called *Anti-Acids*. The same are used for preventing the formation of stones or gravel in the kidneys and bladder, and are called *Anti-Lithics*; in consequence of which, I include them in this part together.

Mild Potash and Soda, or these articles combined with fixed air, have an almost instantaneous effect in correcting the acids of the stomach; and when long used, are said to have a good effect on the kidneys. They may be given in weak solutions, or in the form of pills of four or five grains, on an empty stomach, three or four times a day. Mild lye, extracted from clean ashes, is a cheap substitute for these articles from the shops.

Soda Water, as made and sold in the shops, is considered serviceable in cases of gravel.

Lime Water, made by putting one or two spoons full of newly slacked lime in a gallon of water, and kept covered, is esteemed for each of these qualities. The dose is a small tumbler full two or three times a day.

Prepared Chalk. This is the common chalk reduced to fine powder, and mixed in a large quantity of water, which is to be stirred up and immediately poured off, for the Prepared Chalk to settle at the bottom: it has a like tendency, and the dose is two or three spoons full three or four times a day, mixed in a little water or milk.

Uva Ursi, is a medicine which has no anti-acid qualities, but is given in affections of the kidneys, in doses of about thirty grains, three or four times a day. It is also used in infusion, drunk as tea, throughout the day.

11. VERMIFUGE OR ANTHELMINTIC MEDICINES,

Are the terms given to those which destroy or expel the worms of the bowels. Of this description, we may class all *Purges* of an active nature.

Calomel is the most used of the kind. It should be given at night in large doses, and next morning be followed by a dose of Castor Oil or Salts. Its exhibition is generally requisite three or four times.

Pink Root of Carolina. The dose is from five to ten grains of the powder, or an ounce of it boiled in a quart of water; of which one or two table spoons full may be given every two or three hours. It is to be followed by a brisk purgative, after it has been taken three or four days.

Worm-Seed Oil, extracted from the seed of the Jerusalem oak: in doses of eight or ten drops, taken morning and night for three days, followed by a purgative. The particular directions for using it, will be found around the phials in which it is generally sold.

Aloes, in repeated doses; also given in injections, when the worms are about the lower gut.

The Male Fern, in doses of from one to three drachms, is recommended in cases of tape-worm.

Bitters, Peruvian Bark, and all the tonics, are used to destroy worms.

Filings of Tin. Dose one or two drachms in syrup.

Oil of Turpentine. Dose about one ounce, taken in the morning on an empty stomach.

12. EXPECTORANTS

Are medicines which facilitate the discharge of the mucus from the lungs. Most of the mucilaginous and sweet substances in common use, have more or less a tendency to produce this effect: the chief of which are—*Liquorice*, *Gum Arabic*, *Tea of Water-Mellon*, *Flax and Quince Seed*, *Iceland Moss*, *Elm Bark*, &c.—The effect of these medicines is always increased by adding to the mucilage they make, a little of *Tartar Emetic*. Of the same tendency will be found the common Candies, particularly the *Hore-hound*; *Garlic Juice*, made into a Syrup by sugar; common Syrup, to each dose of which add four or five grains of *Potash* or *Soda*; a Syrup made of *Vinegar* or *Squills*; *Seneka Snake Root Tea*, well sweetened; *Gum Ammoniac*; and, in short, many other articles, of which some of different kinds are recommended by each person whose experience happens to vary: especially *Opium* and its preparations—*Laudanum* and *Paregoric*.

Inhalations of the vapour of *Water*, of *Vinegar*, of *Spirit*, of *Ether*, and sometimes of *Tobacco*, are found useful. And I have frequently excited vomiting to produce the like effect, and with much success.

13. EMMENAGOGUES.

These are medicines supposed to promote the discharge of the Menses, or monthly evacuations of women.

Seneca Snake Root Tea, is highly recommended by Dr. Hartshorne, of Philadelphia; an ounce of the root in a pint of warm water, and boiled one-third away in a close vessel, makes a good form: of which two or three table spoons full, are to be taken as many times in the day—particularly about the expected period, when the dose may be increased.

Savin, the leaves in powder, dose fifteen or twenty grains.

Madder. In doses of twenty or thirty grains, was strongly recommended by the late Professor Barton, of Philadelphia.

Tincture of Gum Guaiacum, is recommended by Dr. Dewees, of Philadelphia. The dose is a desert spoon full in milk.

Ergot, or the spured and musty looking grains of Rye. The dose is ten grains twice a day, about the expected period of the return of the menses.

Blisters about the small of the back. Frictions about the lower extremities; sitting in hot water at the expected period, are useful.

14. DEMULCENTS

Are medicines supposed to sheathe or cover parts in a state of irritation; as the mouth, throat, stomach and bowels, in a state of increased sensibility or soreness. Of this class are all the articles which are commonly known to make a mucilage with water, as Gum Arabic, and the Gums of our orchard trees; teas of Elm Bark; of the root of the Cat Tail of our marshes; Flax, Mellon, and Quince Seed, &c. &c. Oils of the mild kind have a similar effect; especially Olive Oil.

15. ALTERATIVES

Constitute a class of medicines supposed to change the general state of the whole system. The most remarkable of these are: *Mercury*, in its different preparations; strong teas of Sassafras, of Sarsaparilla, and of Mezereon; Sulphur, daily taken, &c.

But the most effectual mode of changing the general state of the body, is to change all habits, to alter the diet, and seek new scenery, by travelling, &c. &c.

16. LOCAL REMEDIES.

Notwithstanding the term applied to this class of medicines, some of them produce a powerful effect on the whole system; not the least of which may be ranked—

Spanish Flies, or the Potatoe Fly of this country, universally used for exciting blisters. The Fly should be very finely powdered, and mixed with equal quantities of Beeswax and Tallow, melted together, or with Tallow alone; and is to be spread on soft leather or thick linen—or the plaster may be spread with the Tallow, and the Flies sprinkled on it. In cases where it would be injurious for the Flies to adhere to the skin, the plaster may be covered with thin gauze. An ounce of Flies in a quart of spirit, forms a good application to irritate the skin.

Mustard Seed, reduced to powder, and mixed up into a paste with Vinegar, is also a common mode of irritating and blistering the skin. Applied to the soles of the feet, it forms the *synapisms* so often used in low states of fever.

Nitric-Acid, two parts with one of water, spread by a feather on the part, speedily destroys the skin, which can be rubbed off in a few minutes, and the raw part kept discharging by irritating ointments.

Burgundy Pitch, spread on leather, and worn on the skin, makes a moderately stimulating plaster; improved by sprinkling on it a little of the dust of the Spanish Fly.

Volatile Linament, made by mixing equal quantities of Spirit of Hartshorn and Olive Oil.

Volatile Alkali, or Spirit of Hartshorne, is frequently used alone, to excite irritation on the surface.

Spirit of Turpentine,
Spirit of Camphor,
Red Pepper in Spirit,

} Each makes valuable local irritants;

and they are often used to relieve rheumatic and other deep-seated pains.

Tartar Emetic, twenty grains in a gill of water, with half a gill of Tincture of Spanish Flies; and common salt, with or without Red Pepper, answers a similar purpose.

Tartar Emetic Plaster. This is sometimes used to blister or irritate the skin opposite the stomach, in whooping-cough; but is apt to be followed by deep and troublesome sores.

17. OINTMENTS.

That most generally used for common sores, is—

Simple Ointment. It is designed merely to sheathe the parts and exclude the air. It is generally made by melting half a pint of Olive Oil with four ounces of Beeswax. But Suet alone, or mixed with equal quantities of hog's lard, will answer equally well, as far as my observations have extended.

Lead Ointment. This is used for sores of an inflammatory nature. It is made by pounding one drachm of Sugar of Lead very fine, and intimately rubbing it up with five or six ounces of hog's lard.

Basilicum, or yellow Resin Ointment. This is used in common sores, requiring a little excitement. It is made by melting one ounce of Beeswax and the same quantity of yellow Resin, with an ounce and a half of hog's lard.

Mercurial Ointment. This is a valuable application for affections of the skin—some old sores—and is much used to excite salivation. It is made by rubbing up one part of Quick-silver with its weight either of Suet or hog's lard, until the Mercu-

ry entirely disappears; when three parts of hog's lard are to be added. This labour generally takes up three or four days for a pound of Quick-silver; but it will not take as many hours, if, instead of the first Lard or Suet, old rancid Mercurial Ointment be substituted, or there be added a little Rhubarb or Turpentine to the mixture.

Red Precipitate Ointment, made by rubbing up one drachm of powdered Precipitate with one ounce of hog's lard.

Tar Ointment. Valuable for affections of the skin and scald head; made by melting together equal quantities of Tar and Suet.

James Town Weed, makes a very valuable Ointment for piles and old sores. It is made by bruising the leaves of the Plant and stewing them in hog's lard, when it is to be strained.—The proportion is about one part of the leaf to one of lard.

18. CAUSTICS

Are frequently necessary to destroy the fungous of sores, or *proud flesh*, as it is vulgarly termed; and to stimulate them to greater action. That most commonly used in this country is—

Burnt Alum. This is common Alum deprived of its water, by keeping it on a hot iron until it ceases to boil: it is then powdered and sprinkled on the sores. Powdered Rhubarb is a good substitute.

Lunar Caustic. This article, obtained from the shops, is most used by Surgeons. Its application is very simple: the edge of it being slightly moistened, the sores are to be gently touched with it.

Nitric Acid, to which is added one-third of water, is sometimes used successfully for those sores arising from the *King's Evil*, called Scrofula. When diluted freely with water, it is very commonly applied as a wash to destroy the worms or maggots of sores in warm weather.

Blue Vitriol. As much of it as any given quantity of water can dissolve, is frequently applied to old sores.

Arsenic. Ten grains in an ounce of water, make a strong wash—delicately applied, sometimes with great benefit, to cancers and very foul old sores, by means of a fine hair-pencil, which is to be dipt in the solution.

Corrosive Sublimate, three grains in an ounce of water, is a valuable wash in eruptions of the skin, and venereal sores. The same quantity, in an ounce of lime-water, makes a very celebrated wash for old sores.

These are the articles most generally employed by Surgeons; but there are many others—like ointments—daily made and varied to suit some real or supposed peculiarity in uncommon cases.

Although I have thus mentioned many remedies, I hope you will not understand me as recommending them to general attention. But few physicians ever have occasion for the half; and they are here stated only for those who possibly may find occasion for them. Annexed is a list of such as I think ought to be in every family of twenty or thirty persons, at least in every neighbourhood. Any Apothecary will supply them at less than half the charges for the much inferior assortment generally sold in Medical Chests,

And I have to add the remark, that your great dependence for the cure of diseases should be on the most simple means; that you should give a decided preference to local, instead of general remedies, in most cases. For several years, I witnessed the practice of the Physicians of Philadelphia, and have attentively observed that of several other places: It has constantly struck me that the Philadelphia Physicians were rather more successful,—not from having more skill, learning, or practice; but from their using more frequently local remedies, especially cupping, leeches, scarifications, issues, and blisters. It seems there to be the *fashion* to use freely such means of cure; and I have often lamented that the same facilities for doing it, as well as the same desire, was not to be found in every part of our country.

A LIST OF MEDICINES
For a Family Medicine Chest.

	Ounces.		Doses for Adults.
Calomel,	1,	- - - -	Grains, 20
Jalap,	2,	- - - -	50
Rhubarb,	1,	- - - -	50
Magnesia; calcined,	2,	- - - -	90
Tartar Emetic,	$\frac{1}{2}$,	(in broken doses,)	5
Ipecacuanhæ,	$\frac{1}{2}$,	- - - -	20
Aloes,	1,	- - - -	10
Laudanum,	4,	- - - -	forty drops.
Paregoric,	8,	- - - -	four tea spoons full.
Blistering Flies,	4,	(for plaster.)	
Camphor,	4,	- - - -	Grains, 10
Columbo Root,	4,	- - - -	20
Sugar Lead,	1,	(most used for wash,)	2
White Vitriol,	1,	(for an Emetic,)	20
Blue Vitriol,	$\frac{1}{2}$,	(ditto,)	5
Sal. Ammoniac,	2,	(for washes,)	
Vol. Alkali,	2,	- - - -	10
Salt of Tartar,	1,	- - - -	10
Salution of Arsenic,	1,	- - - -	five drops.
Galls,	1,	(substitute Oak Bark,)	10
Spirit Nitre,	4,	- - - -	two tea spoons full.
Ether,	4,	- - - -	ditto.
Elixir Vitriol,	4,	enough to make a tumbler of water sour.	
Senna and Manna,	8, each,	- - - -	one ounce.
Sulphur,	8,	- - - -	ditto.
Chamomile Flowers,	8,	(Tonic, in tea.)	
Peruvian Bark,	8,	(ditto.)	
Salts, five pounds; and Cream of Tartar, one pound.			
Oil of Turpentine, and Spirit of Hartshorne, each one bottle.			
Castor Oil, and Olive Oil, each one bottle.			
Essence of Peppermint.			
Snake Root.			
Also a little Alum, Nitre, Corrosive Sublimate, Borax, Mercurial Ointment.			

ADDRESS III.

Particularly to Ladies, respecting themselves.

It is from no selfish considerations that I entreat you to attend to the subject of this address. On your account, it has long been a subject of my sincerest and strongest solicitude. The prevailing ignorance about part of the information which it details, has indeed been the cause of much suffering, and many premature deaths among your sex.

My design is to make you acquainted with the nature of the functions peculiar to your bodies; the offices you should perform to each other; and the treatment of the diseases to which you are liable. You can, with the utmost ease, understand the subject: it is enveloped in no mystery; and requires no extraordinary exertion or talents—nothing but the common exercise of a common mind. Your bodies pass through certain stages—perform certain offices: every body knows it;—and can you deem it at variance with delicacy, deliberately to investigate the detail, so as to qualify you to perform properly the duties which every one of you may have occasion to demand from another?

By all you hold sacred and dear, I beseech you to qualify yourselves, at least, to assist each other in childbed. There is not one of you, from the most elevated to the lowest rank, who can be above the obligation to do it. There is not one of you who cannot render every needful assistance: For the simple process of childbearing is performed by your systems, not by attendants' hands; by the resources of nature, not by the powers of art. Look at the births of all animals, and behold how complete the unassisted operation. See the inhabitants of Asiatic and other hot countries; of our savages and negroes:—they bring forth in seclusion and safety; nor with them is the fancied curse verified, "In sorrow shalt thou bring forth." Away, then, with all your fears on the subject: they are the offspring of folly, indulged from ignorance, and propagated by designing persons, to profit from your error. A thousand times you are told of one irregularity in na-

ture, but seldom hear of her almost undeviating correctness in operating. A thousand times you dwell on the miseries of one sufferer, without thinking of the millions who happily and healthily pass the period of parturition. Away with your forebodings: Believe the truth, when pregnant, that, in all human probability, you will do perfectly well; that the most ordinary women can render you every needful assistance, without the interference of men midwives. Their hurry, their spirit for acting, have done the sex more harm than all the injudicious management of midwives, of which they are so fond of talking.—This, Dr. Denman, Dr. Buchan, and many other really great physicians, have long since remarked.

If the difficulty of obtaining doctors at the proper time; if the indelicacy and tendency to immorality of having them in any but the critical and unnatural cases; if the propriety of giving to helpless women proper encouragement and support; if the salvation of many women, who, shocked at male interference, have their pains vanished, and minds deranged, and who sometimes prefer death to exposure; if the salvation of many children, born almost without warning; if the prevention of the destructive interference of some attendants, cannot, united, induce you to attend to this subject: the mechanical advantage between a man's and a delicate woman's hand, ought to command your decision in favour of employing and encouraging female assistants. Such is the limited organization of the parts for our birth, and such the large size of men's hands, that I verily believe as much mischief as good has been done by them. I conclude with the remarks, that when professional assistance becomes necessary, from unnatural occurrences, the case is altogether altered. The exposure is not of parts in a natural state, but deranged; the woman becomes a patient for his operation—is a subject of commiseration; and the solicitude to remove her danger and agonies is the only thought a man can have. In such cases, there ought not to be the least hesitation in the female to submit to examination;—there is no indelicacy in it. Religion and future usefulness, command that life should be preserved even at the expense of the greatest sacrifices. The rule that I would prescribe to the females for whom I felt most affection and solicitude would be that which I now urge, on no account to submit to the interference of men in

common labour; do it most readily in the uncommon cases, when a nurse under the direction of a physician cannot afford relief.—I will venture to add, that there is not a physician, disinterested, of sound sense, who would not approve of the rule. The best authors on midwifery decidedly recommend it.

An acquaintance with the subject will enable you to be of service to more than those in childbearing. The rational treatment of your own peculiar disorders, often so injudiciously conducted; the prevention and cure of children's complaints, so interesting to every woman of extended feeling, are taken into consideration; subjects well worthy of your serious attention. If no other benefit can be derived, but that of preventing the administration of improper doses, it will not be inconsiderable. Many disorders are riveted in you, and especially in children's constitutions, by taking articles contrary to the indication for cure. So many of you are inclined to believe in stories of cures from the prescriptions of common people, that it is an important point to impress on your minds, that our bodies are subject to laws; our diseases to be cured according to principles. If you will seriously believe this, will believe that medicine is a rational science; you will increase the respectability of the profession, and your own safety, by always selecting for your physician the man of sound mind, who reads the books of his profession, instead of the pliant, finical "lady's doctor." You will discover that your diseases are to be prevented and cured, not by the compounded trash of apothecary shops, but chiefly by the rational use of what is plentifully in our power.

ORGANS OF GENERATION.

It is proper, in order to illustrate this subject, to give a description of the parts concerned in birth. It is not my design to attempt making more than such a general statement as will enable you to think and speak with tolerable accuracy of them. I have witnessed so many groundless fears, so many dreadful forebodings on the slightest appearance of disease in this region, that I feel confident you will be greatly benefited by a more correct knowledge of it. To make you certain that the parts are like all others of the body: have nothing of a wonderful nature about them, and

require for the treatment of their diseases, the exertion only of common sense, is no inconsiderable object.

In describing them, it is customary to do it under the divisions of **HARD PARTS**, meaning the bones, and **SOFT PARTS**, including the *external* and *internal*.

The bones immediately concerned in generation are those forming the circle around our bodies, about the hips, collectively called the pelvis, a name you may readily remember. This pelvis is formed by the union of separate bones, of which you should particularly remember the end of the back bone, called sacrum.— This bone turning round, as it were, our rumps, forms a considerable curve and hollow. The end of this sacred bone, or sacrum, is called os coccygis; which is so joined as to move a little backwards and outwards at births; particularly among those who marry late, it sometimes makes a noise in moving. The sacrum is connected to the hip bone on each side (called os ilium,) and these hip bones unite to a bone on each side towards our front, called os pubis. Each os pubis unites in the centre to each other, and form what is called the symphysis, or union of the pubes or front bones. This union has attracted more attention than any other of the pelvis, because it is sometimes defective after child-bearing; and sometimes it has been divided to facilitate the passage of the child's head; a practice which experience has proved to be improper. In women of small pelvis, where these parts have been strained at birth, there is great weakness; in some cases, impossibility of walking. There is no remedy for this misfortune but rest, and a tight bandage around the hips, so as to compress them together.

All the hard names you have to remember on the subject of these bones are, the pelvis, meaning the bones around our hips collectively; then the sacrum, or end of the back bone, with its end called os coccygis; then the pubes in front. With the os ilium, or hip bone, and the os ischium, or haunch bone, connected to it, on which we rest while sitting, you need not trouble your memories.

The female pelvis is larger than that of males. It has been compared to a basin, without bottom, one side much narrower than the other. In front it is much more shallow than at the back, which, as before observed, is formed by the back bone, called at this end, os sacrum.

The pelvis is considerably wider from hip to hip, above, than below. This upper part is called its upper brim, and measures from side to side, or hip to hip, from four to near six inches, in those of the largest size; from front to back, it measures from about three inches to near five. But at the bottom of the pelvis, when the child's head passes out from the bones called the lower brim, these dimensions change, and are reversed; so that the widest part of the lower brim is from front to back, instead of from side to side, as at the upper brim. Understanding this, and knowing the dimensions of a child's head, narrowest from ear to ear, and knowing that nature always performs her business in the wisest manner, you could at once tell how a child's head passes through this opening at natural births. But the pelvis is subject to deformities, as well as irregularities in its dimensions. These deformities are common in manufacturing countries, as in England and France; but very rare in those countries where the people are not cramped up, as in the United States. The chief deformity is the projection forwards of the back bone, so as to come nearer the pubes in front, and obstruct the passage of the child. The extent of the obstruction produced by projection of the sacrum on a living subject, is difficult to be ascertained; but an idea of sufficient accuracy for practical purposes may be formed, by pushing the fore finger up the birth-place, in front, close to the pubes, then moving it backwards to the projecting part of the sacrum. The distance the finger goes before it reaches the back part or sacrum, will give you the capacity of the pelvis. The actual distance the finger moves must be conjectured.

In order to end the dry subject of bones, I will mention those of the child's head proper to be attended to. The head is longest from the front to the back part, which back part is called the *crown* of the head; so that when the chin rests on the neck, as at birth, it forms a kind of cone, of which you can have an idea by half bending the thumb and fingers, and drawing their ends to a point together. From ear to ear, the child's head is generally about three inches; and being longer from the forehead backwards, and adapting itself to the most favourable dimensions of the mother, it will pass out the upper part of the pelvis, with the ears at the side of the front and back bones; and turning one

quarter round, as it descends to the lower brim of the pelvis, the ears would pass each at each side or hip of the mother, because that part is narrower than the upper. The skull is made of several bones, connected together by seams called sutures, which in infancy have their edges very soft, and yielding to allow compression at birth. These seams or sutures run across from the front to the crown-bone; and from near each temple, and also from behind each ear, an inch or two, up to the upper seam: at their meeting in front, above the forehead, they form a four-sided opening, called front or square *fontanelle*: at their meeting on the crown of the head, they form a three-sided or triangular opening, called back *fontanelle*. To remember this difference in the two openings in the skull, the front with four sides and the back with three sides, is very important to enable one to distinguish the presenting part of the head, in tedious or difficult labours. The bones forming the child's head, which you ought to remember, are the bone of the forehead, called frontal bone, and the bone opposite, backwards, called the occiput or crown. The temple bones, at each side of the ears, and the bones forming the remaining sides of the head, called parietal bones, are not necessary for you to remember. It is the crown bone, or occiput, that presents in the best cases of births, and consequently the lesser, or back *fontanelle*, is always felt, with its triangular or *three-sided* edges.

The formation of the head of the infant, is one of the master works of nature. As before observed, the edges of the bones are very soft, of a somewhat gristly nature, readily yielding to compression; the edge of one side passing over that of the other, so as to favour the variation of the shape of the skull, to suit the opening it has to pass. It is worthy of remembrance, that so singularly pliable is the infantile head, so strong are the expelling powers of the womb, that in cases of deformity of pelvis, the head has passed through an orifice not exceeding two inches from front to back.

After taking into view the formation of the child's head, and the formation of the pelvis, it must readily appear, as nature always operates wisely, that the one ought to pass in the manner best suited to the form of the other. Accordingly, in natural cases, it is precisely so. The head enters the upper part of the pelvis, called the upper brim, with the ears to the front and back

bone of the mother; then passing along, it twists one quarter around, so that in making its escape, at the lower brim or edge of the pelvis, the ears are from hip to hip; the face, of course, towards the back. No female of reasonable mind, seeing such display of provision for the birth of the young, ought to indulge in fears of her delivery; probably more destructive in their tendency than the greatest irregularities of nature.

EXTERNAL PARTS OF GENERATION.

The parts next to be described are the soft parts, as exhibited externally. The front view exhibits to the eye the fatty elevation on the pubes, called the *mons veneris*, with its crown of hair.—This mass divides, one half running down each side, forming something like lips, and called the *labiæ*; at the bottom, these lips unite again, and exhibit a kind of sheet, called perineum, about an inch long, which disappears about the fundament, or anus.

Upon opening these *labiæ* or lips, the first conspicuous part above is a small elevation, or rising, called clitoris, the seat of pleasure in the sexual intercourse between the sexes. In some it is of very small size, scarcely perceptible; in other cases, very conspicuous. There are numerous glands around this, secreting a cheesy, odorous substance, which, unless washed off, irritates the clitoris, and excites venereal desires. Directly under this clitoris, is a small orifice, leading through a canal to the bladder, through which the urine passes.

Beneath the urethra, in some virgins, is seen a thin membrane, called *hymen*. In the first sexual connexion, it is rent asunder, and appears in ragged edges each side. Some virgins have had this membrane so compactly formed, as to prevent the passage of the menses, so that they have collected in the womb, and produced a distension like that of pregnancy. The remedy is to make a small puncture with a lancet, and allow the confined matter to pass. In many, this membrane does not exist; it therefore forms no certain evidence, when it is absent, that the woman is not a maid. When the hymen is destroyed, and the lips being opened, we have the entrance to the womb, called *vagina*, or birth-

place, which is narrowest in virgins. With this brief sketch of the parts exterior, I proceed to mention those within.

INTERNAL PARTS.

As before remarked, the first orifice is that of the canal for the passage of the urine. Around its edge it has a small or slight elevation, which it is proper to remember as a guide for an operation which will presently be mentioned. This orifice conducts through a canal to the bladder, which is seated immediately behind the front bones or pubes; and it is this channel which is called the uretha. It is wider than a large goose quill, and is from two to three inches in length.

INTRODUCTION OF CATHETER.

The uretha, or canal to the bladder, is subject to considerable disease; sometimes to obstruction, preventing the discharge of the urine. There is no complaint to which females are subject, more manageable among themselves, and consequently which they ought to attend to with more earnestness; and the knowledge necessary is of such easy acquisition, the performances so simple, that much attention is scarcely necessary. Nevertheless, this little knowledge, this little ability to perform, has been so neglected, that not only innumerable females have had to exhibit themselves to men, but many of them have actually expired, from want of some one to draw off their urine, by means of a little tube, called "a catheter," corresponding nearly in shape to a goose quill, which has sometimes proved a convenient substitute.

And what is the operation of introducing the catheter, to evacuate the urine? The bladder containing the urine, is immediately behind the bones in front, called the pubes; the canal to it is direct—not three inches long. The instrument, the catheter, as a quill, is adapted to the size, and the woman laying on her back, finding the entrance, and pushing it backwards and upwards, pushing it gently in the direction where least resistance is made, can readily introduce it into herself for the flow of the urine.—If there be too much sickness for a woman to perform the operation on herself, her associate, her nurse, her servant can do it. The

catheter is to be greased with the mildest oil; the patient laying on her back, it is pushed most slowly and gently into the bladder: it is to be held between two fingers, and may occasionally be rolled around. The urethra makes some resistance, particularly at its entrance in the bladder, which is to be overcome with patience and gentleness, not violence.

In cases of pregnancy, the urethra is compressed by the head of the child, and the best catheter is an elastic or compressible one, which will yield, or adapt itself to the part it has to enter. You should remember, if it be impossible for you to procure a catheter, and consequently have to use a goose quill for a catheter, it should be so tied or connected, as to prevent its entire entrance into the bladder, where it has sometimes passed, and exposed the patient to the necessity of a dreadful operation for its extraction. The common catheters have a handle, to prevent this accident.—I suppose it is scarcely necessary to mention, that, on introducing the catheter, you should have a pot or basin, to let the urine flow into. Where it is to be introduced, and the patient cannot discharge the water afterwards without aid, it should be introduced twice or three times every day.

Dr. Bard thus writes on this subject: “Introducing the catheter, in the female, when the midwife is properly acquainted with the situation of the orifice, and the direction of the urinary canal, is an operation of little more difficulty than administering a clyster; except where certain obstacles occur, which are to be overcome, more by patience and gently repeated attempts, than by any remarkable skill. From motives of delicacy alone, this easy operation ought to be in the hands of women; but what is of much more consequence is, that if a man is to be sent for every time it may be necessary to perform it, it will generally be neglected too long, particularly in the country; to the very great injury, and in some instances, danger of the patient. The orifice of the urethra, or urinary canal, is situated under the arch of the pubes or share bones, and the canal, making a slight curve, ascends very little, and enters the bladder almost immediately behind it: it is not above one inch and a half long, so large as to admit a catheter of the size of a goose-quill, and so little curved that a straight instrument is by some preferred. Having discovered the orifice, the operator, standing or sitting on the right side of the patient,

and holding the instrument in the right hand, with the hollow of the curve towards the patient, is to introduce it; directing the point at first a little downwards and backwards, when, gently depressing the hand, raise the point a little upwards and forwards: it will almost immediately enter the bladder, and the urine will flow from its extremity. If, however, some little difficulty should occur, patience, and gently moving the hand from side to side, or upwards and downwards, will overcome it with very little or no force, and with little pain to the patient. At any rate, force is never to be used; it is better to desist, and make a second or a third attempt; for whenever any difficulty presents, it is owing to circumstances not to be overcome by violence, which can never do good, but may do infinite mischief. In some cases it is best to put the instrument, when introduced into the orifice, into the hand of the patient, who, directed by her own feelings, will sometimes succeed more easily than any other person: a caution, however, necessary to be observed respecting the use of the catheter, is not to introduce it unnecessarily; or before such remedies as warm bathing, fomentations, a clyster, soothing mucilaginous drink, have been tried: because, when it has once been introduced, it is frequently found necessary to repeat the operation, from the increased sensibility it induces on the urethra and neck of the bladder."

It is proper in this place to remind you, that there are many temporary suppressions of urine, not requiring the introduction of the catheter. A purge of salts or cream of tartar, will generally relieve effectually, as also sitting in the warm bath. Such is the habit of urinating at the time of evacuating the bowels, that it is seldom the bowels are opened in these temporary suppressions, without relief to the bladder. Your rule for introducing the catheter, should be generally when the bladder is painful, or when it may be felt over the pubes or front bones; and when, by introducing the finger up the birth-place, you feel the bladder enlarged. In many cases of fever, there is no secretion of urine for a day or two, sometimes longer: it is useless in these cases to indulge in the least fear or uneasiness.

The second internal part below the urinary canal, is called the vagina, or birth-place. At the age of puberty, and before copulation, it is from two and a half to three inches long, and rather

more than an inch in width. Its internal surface is lined with glands which secrete considerable quantities of mucus, particularly during connection with the male, and when excited to action, as in the disease called *whites*.

The birth-place, or vagina, receives into it the mouth of the womb, the edges or lips of which project forwards; so that they may be felt, before its connection with the vagina. It has been compared to the inverted finger of a glove. This projection of the mouth of the womb into the birth-place should be understood by midwives, as it is from its feel that the existence of labour is certainly ascertained. This mouth of the womb is called, ridiculously enough, *os internum*, and *os tincæ*; but you will better understand it, by calling it the mouth of the womb.

The bladder is nearest the front bones: the womb is next to it, and before the end gut, or rectum, which is bent and attached to the curve or end of the back bone. It is called the *uterus*; it is of the size of a common oblong pear; the largest part being upwards, or towards the stomach. It is divided into *neck*, *sides* and bottom, or *fundus*. The small part, commencing at its mouth, is the *neck*; this disappears in its round *sides*; and lastly, the largest upper part, called the fundus; to which the after-birth is generally attached.

The womb is a very fibrous mass of considerable thickness.—It is the receiver of what forms the child. It is of such a nature, that it enlarges, and grows to the enormous size for containing the child and its appendages; nevertheless, always retaining the same thickness of its sides. It is by the contraction of these fibres that the contents are expelled. It receives large quantities of blood, and secretes the discharge called the menses.

The womb is suspended, from each side of the pelvis, by a membrane, which allows it to float about considerably. Attached to the two opposite sides of it, is a small fleshy tube, extending near three inches, called the *fallopian* tubes. These tubes terminate in a ragged kind of edge. To each side of the pelvis, is a small mass of the size of a large bean, called the ovaria, or female testicles, as they supply the seed the woman yields at impregnation. They have little reservoirs, like small blisters, and at every conception one of these bursts, and gives up its contents, leaving something of a scar in its place. By cutting these out,

as in the spaying of hogs, the animal is deprived of the power of conception. From these circumstances, it has been settled, that in successful copulation, these floating, moving fallopian tubes, all stimulated by the seed of the male, have their ragged edges attached to the ovaria, take up the contents of one of the little bladders, and carry it to the womb for its development and growth.

FALLING DOWN OF THE WOMB.

Having fully familiarized your mind to the relative situation of these parts, you will be better qualified to understand the nature of the affections of the womb. It is connected to your sides by a membrane at each side of the womb. Now, this membrane is liable to extension, particularly when an ignorant midwife is allowed by ignorant by-standers, to pull the after-birth away.—This is called the falling down of the womb. Its mouth continues to sink through the birth-place, till it protrudes out; a most lamentable affliction, since the remedies are but partial, often failing. They consist in bathing the parts well in cold water, gently pushing back the womb, and putting up the birth-place a little, oval, oblong ball, called a pessary. This may be made of bees' wax, of sponge, silver, bone, or ivory, which you may get from the apothecaries, if you do not choose to make it yourselves. You push it up the vagina while lying on your back, and retain it there by a bandage around, as in wearing diapers. It may be taken out at night after laying down; but must be pushed up in the morning before rising. Cold water poured around the hips every morning, will tend to expedite the retraction or cure, which in some cases has been perfectly effected by perseverance in the use of the pessary, or long, round body, worn in the birth-place, to support the falling womb.

FALLING BACKWARDS OF WOMB.

The next affection of the womb I wish you to understand, is what has been termed its retroversion, or falling backwards.—This takes place in the early stages of pregnancy, when, after the enlargement of the womb, particularly on retaining the urine,

sometimes from a blow, kick of a child's foot, and the like, above the pelvis, the bottom of the womb is thrown backwards against the strait gut, so that its mouth is turned upwards. This presses on the neck of the bladder, and, preventing the evacuation of urine, increases the derangement by consequent distension. The treatment for this accident is very simple: be sure first to draw off the urine with a catheter; give a clyster to open the lower bowels; then let the woman rest on her feet and head, or elbows. In this situation, push the finger, well greased, up the fundament, and you will feel the ball formed by the womb, which you are to push upwards. You may also have a finger up the vagina, and it is scarcely possible, by gently raising the womb with each finger towards its natural place, that you can fail of success. On its restoration, the woman should be quiet for a week or two, and be cautious of exposure to the causes, particularly to void her urine very often. In some cases of this inversion, there is only a difficulty in discharging the urine, which, as the womb enlarges, increases. In every such case, you must evacuate the urine, and resort immediately to the pushing back the womb, as directed. Dr. Denman remarks, that it is the middle class in society who are most subject to this complaint: the highest and lowest are not ashamed to walk out and evacuate their urine the moment they desire it. The middle class are so modest, so ashamed, at the suspicion they wish to urinate, that they sit, the bladder distending till it inverts or turns over the bottom of the womb. There is no caution which a married woman ought to bear in mind more constantly, than that it is very injurious to retain her urine.

INVERSION OF WOMB.

The last derangement of the womb I shall mention, is one that very seldom occurs. It is when the inside of the womb is turned directly outwards, and protrudes out of the birth-place as a bag or bladder, immediately after a delivery. The cause of this is overstraining at delivery, but mostly violence in pulling away the after-birth, for which any midwife ought to be punished.—The remedy is, to reduce the patient by blood-letting, if not previously enough reduced; to foment and bathe the womb, so as to

reduce the inflammation, that it may be replaced. To do this, hold the mass grasped in one hand; with the fore-finger of the other, push back the bottom, as if you wanted to push in a bladder, so as to be inside out; continue gently pushing till the inversion is effected, and then the whole with a finger may be pushed up the vagina, to its natural situation. A medical man ought to attend to the patient's health: she carefully avoiding sneezing, bearing down, and the like causes of relapse.

DROPSY OF OVARIE.

The next disease I shall mention of the internal parts of generation, is a dropsy of the ovaria, or female testicle, commencing with a small swelling in either side, gradually enlarging till the belly becomes immensely distended. The best treatment is to let it alone; as the melancholy truth has been discovered, that no cure can be effected by medicine. Sometimes it has been known to burst in the womb, discharging all its contents through it, so as to relieve the patient. Opening the side to evacuate the contents, has seldom done service. All the useful that can be urged on this subject is, that, as there are strong reasons for believing the complaint arises from blows or bruises about and above the groin and pubes; females should be careful to avoid them.

MENSES.

I commence this subject with the remark, that you generally err in attaching so much importance to the periodical discharge, called courses or menses; and in thinking so much of it on the approach of diseases. The apprehensions on this subject, amounting to excessive anguish, which annoy so many women, are groundless. It is not material whether it be great or inconsiderable, regular or irregular, early or late in its appearance.

The following history of this evacuation from the womb, is from Dr. Denman: At whatever time of life this discharge comes on, a woman is said to be at puberty, though of this it is a consequence, not a cause. The early or late appearance of the menses may depend upon the climate, the constitution, the delicacy or

hardships of living, and upon the manners, as hinted by Rousseau, of those with whom young women associate. Heat appears to operate on women as on fruit, producing earlier ripeness; as the warmer the climate, the sooner the menses appear. In Greece, and other hot countries, girls begin to menstruate at eight, nine, and ten years of age; but advancing north, there is a gradual protraction of the time, till we come to Lapland, where menstruation does not occur till a maturer age, then in small quantities, at long intervals, and sometimes only in the summer.

In hot climates, women are in the prime of their beauty when they are children in understanding; and when their understandings grow to maturity, they cease to be objects of love. In temperate climates, their persons and minds arrive at maturity at the same time; and by the united power of their beauty and intellect, they become irresistible.

Some girls begin to menstruate without any preceding indisposition; but generally there are appearances or symptoms, indicating that it is about to take place. These are usually more severe at the first, than in the succeeding periods: pains in the back and inferior extremities, affections of the abdomen, with hysteric and nervous affections. These commence with the first disposition to menstruate, and continue till the discharge comes on, when they abate or disappear.

The quantity of bloody secretion discharged at each evacuation depends on climate, constitution, and manner of living; but it varies in different women in the same state, and in the same women at different times. In hot countries, it is near twenty ounces; in the coldest, about two ounces. There is also a difference in the time required for the completion of the discharge.—In some it returns precisely at stated periods; in others there is a variation of several days. In some it continues but for a few hours, in others for ten days; but from three to six days is the most usual period.

At the approach of old age, menstruation ceases, the time depending on the time of its appearance; that is, early or late, as it occurred in each case. When it took place at the age of ten or twelve, it ends about the fortieth year; when about the twentieth, it continues till about the fiftieth, sometimes till the sixtieth year; but in middle temperate countries, the period of its cessation is

the forty-fifth year. By this constitution of women, the propagation of our species is happily confined to the most vigorous part of life.

The discharge is a secretion coming from the vessels of the womb, and ceases when impregnation takes place. Sometimes it is confounded with periodical evacuations of blood from those parts, often from the vagina, and erroneously has been supposed to occur occasionally during pregnancy. Of the cause of the discharge it can only be said, it appears to be a provision of nature to accustom the womb to great discharges, preparing it for the supply of the substance constituting the body of the child.

During this evacuation, women ought to be as quiet as practicable. They should be, at this time, extremely cleanly. The statement by Moses of what he supposed the Lord said, "women should not touch any thing after this issue for six or seven days," was designed to ensure greater attention to cleanliness.—Morning and night they should sit in a tub of warm water a few minutes, for effectual washing. The common prejudice against the use of warm water in this state should be disregarded, as it is not only of no injury to the general health, but is of real service in lessening the irritability of the part. The diet ought to be rather less than common, in quantity and quality. Sudden exposure to cold, rain, and alarms, should be avoided, though frequently encountered without injury.

The womb from whence the menses come is subject to great varieties of diseased action; and it is a subject of remark and astonishment, how much the stomach, head and pulse, sympathise on such occasions. There are almost always symptoms of hysteria, despondence, sickness at stomach, and low pulse. The chief varieties of its diseased action are classed under the heads of *excessive*, *obstructed*, and *suppressed* menstruation. Most women occasionally are affected with different degrees of these varieties. Considering their habits of living, so contrary to the activity for which they were formed, it is astonishing they do not more severely suffer.

The remedy for these affections is generally sought for in physic, but most erroneously. There are no diseases you are subject to, not more under the control of medicine; yet none more easily prevented and relieved by the exercise of common sense, in at-

tention to habits. Like all animals breathing much air and eating freely, women were made for exertion, their fluids for constant circulation. Each part must expend by exertion so much of its irritability, or disease will appear. Among the Indians and labouring class of women, there are but few if any cases of this disease. This alone should be sufficient to induce all subject to these complaints to seek relief in imitating the diet, exercise, and habits of those who live agreeably to nature.

EXCESSIVE MENSTRUATION.

The first variety mentioned of the diseases of menstruation, was excessive discharge. This is usually greatest in robust women, of indolent habits. In some it is profuse at once; in others it continues for several days, reducing the system greatly, to extreme weakness. In this disease there is too great determination of blood to the womb, too much action in its vessels. The remedy is the dictate of common sense—equalize the action. This is to be done in persons very full of blood,—to be determined by the pulse, or the feverish state of the system,—by blood-letting, by purging with salts, oil, or magnesia; and by exciting action in other parts of the body. During the discharge, the patient should keep cool in bed, the hips a little elevated; abundance of cool, fresh air to be admitted in her apartment. A vomit of ten or twelve grains of ipecacuanhæ, or a grain of tartar emetic, may be given every half hour, until the stomach is fully excited.—When the discharge of blood is profuse, there should not be the least hesitation in introducing up the birth-place cold water, by injecting it with a syringe or any common squirt, or by pushing up wet cloths. Sitting in a tub of cold water, will often answer; an injection of sugar of lead water (a tea spoonfull of lead to a pint of water) is a more certain remedy, but it should not be tried till the other prescriptions fail. In moderate cases, wet cloths from cold water, or ice in a bag, applied to the belly, will afford relief. When the blood flows in an alarming quantity, it is by all means necessary to prevent its passage, by stuffing cloths up the birth-place. Bleeding from the arm, the patient sitting up to favour fainting, should always be done, if the patient be not already too much reduced. Two grains of sugar of lead, with a

quarter of a grain, or not, of opium, may be administered every two hours, until the discharge of blood is reduced. After this, a purge should be given to carry off any remains of the medicine in the bowels. In common cases, simply purging, keeping cool on a sofa, avoiding all stimulating diet or drinks, is all that is requisite during the discharge.

But the great object is to prevent returns of this excessive discharge. The only effectual means for prevention will be found in attention to the general health. In addition, I would urge every woman subject to it, to revolutionize her habits, to spend her time between the discharges very different from formerly, taking different exercise, diet and drink; particularly exciting a powerful action on her skin by frictions, by coarse applications, by cold and salt bath, and by blisters. About the time for the return, she should lose blood, particularly if of a full habit of body. She should devote unusual attention to her daily evacuations from the bowels, sitting daily in cold water, and to relieving her mouth from the irritation of rotten teeth. It has been suggested by a respectable physician, to cup the breasts; with a view to excite such a determination to them as would divert from the womb.

But I have no hesitation in recommending, as of far superior importance, the excitement of the breasts to the secretion of milk. The means of doing this will be particularly explained when on the subject of barrenness, to which I refer. The discharge being excited, I would advise it to be continued daily for two or three months, and in all probability it will relieve the determination to the womb causing its excessive bleedings, at least the more certainly, if aided by attention to the first advice. I have repeatedly successfully treated this complaint, by having the breasts excited to secrete milk.

OBSTRUCTED AND PAINFUL MENSTRUATION.

Unmarried women are most subject to this disease. The variations of it are from total to partial suppression; attended with little or great pain, and often marked by affections in the other parts of the system, from sympathy, analogous to those characterising the pregnant state.

When menstruation first takes place, it is usually attended with pain, head-ache, and feverish symptoms. These generally go off without requiring any particular treatment. But when they are considerable, or the person delicate, it is best to favour the evacuation, by sitting in a tub of warm water; this may be continued for hours when the pain or irritation is great. Dipping the feet in as hot water as can be endured, or in strong lye, or lime water, as is done for curing whitlow, or inflammation of the finger, will prove of service. It is not designed for the purpose of exciting perspiration, but to produce a scorching, or sense of burning, which will increase the determination to the lower parts. When the pains of the patient are considerable, blood should be taken from the arm, and sweet oil be applied all around the belly and small of the back.

More serious attention is necessary in cases where the discharge is suppressed after it has taken place. Strong passions of the mind, and exposure to cold during the menstrual period, frequently check the evacuation, which is followed by fever, by inflammation of the womb, and its attendant symptoms, pains in the neighbourhood, sick stomach, head-ache, and general appearances of fever. In every such case, it is proper that the patient should immediately sit in a tub of hot water, go to bed, take a purgative, and lose a little blood.

When the evacuation is obstructed for a length of time, more serious disorders ensue: "indigestion, sickness, variable appetite, heart-burn, distension of bowels, head-ache, palpitations, and many hysterical symptoms. Sometimes the face becomes pale, the eyes sunk, the bowels costive, pulse contracted and irregular, tongue foul, feet swelled, belly tumid, appetite diminished, craving of chalk, or indigestible food, the sleep interrupted."

In order to bring on a return of the menses, it is of the greatest importance to attend to the time when they should take place, as then the greatest efforts are to be made. The patient should have a small blister applied about a day or two before the time, between the fundament and birth-place, called perineum. A purgative should at the same time be given, of four or five grains of aloes; to be repeated twice or three times. The next advice to be observed is, to sit in a tub of as hot water as can be endured, suddenly getting in and out of it. In a greater degree, the feet

should be scalded. Sometimes blisters applied to the ankles for three or four hours to redden the skin, have afforded relief; as also to the lower part of the belly, or to the small of the back.

If these remedies do not succeed, it is proper, in addition to their use, to inject in the vagina a mixture of strong brandy and water, as hot as can be borne, or of any thing else that will slightly irritate and inflame the parts, such as vinegar, wine, strong brine, and the like. The more the patient at the expected time moves about, by walking, riding, or jumping, the better. Electricity, used by drawing sparks from the thighs and neighbourhood, has been stated to be serviceable in many cases. Ligatures or bandages, tied around the thighs, so as to compress the veins and not the arteries, a day or two previous, is also a remedy well worthy of trial; they are only to be continued an hour or two at a time, till the blood collecting in the legs, they are to be removed. The momentary distension produced, tends to excite a new and increased action in the lower parts, and thereby relieves the disease of the womb.

It is often of service to lose a little blood, even if the general health be good; also when there is reason to believe the least fever exists. The change produced by this evacuation, tends to favour the return of the womb to its natural action, which is to be encouraged by using the medicines recommended for the purpose under the head of *Emenagogues*, to which I refer you. It is best to give each a fair trial, commencing with the best, the Seneka snake root, as recommended by Dr. Hartshorne.

In guarding against this complaint, the health of the constitution is to be kept in view. I refer you to what was recommended for the preservation of health. And I will only add, that you should be more cautious in avoiding irregularities; take exercise in open air, on foot, or on horseback; have your skin well rubbed with a coarse brush every night; evacuate your bowels every day; have your decayed teeth extracted; lastly, use the salt bath every morning, until within a few days of the expected return.

PERIOD OF CESSATION OF MENSES.

This is with most women a very critical time, and deserving of more attention than is generally paid to it. During all changes

in the constitution, diseases are most apt to creep in; and never more so than at the revolution taking place in the womb at this period of life. As stated in the history of this evacuation, it disappears from the forty-fourth to the fiftieth year, preceded by varying irregularities in its appearance and symptoms.

Medicine can afford no relief; yet there is no affection so perfectly under the control of management. It is the dictates of common sense, not the effect of doses, that are to be regarded.—You know that this discharge for thirty years has been attended with considerable action and irritation in the womb, and great determination of blood to the part affording the secretion.—The important object, then, on the cessation, must be to accustom the system gradually to the loss of irritation, and discontinuance of secretion. This is to be done by exciting temporary irritations in other parts, and by exhausting in exercise the superfluous quantity of blood, and by abstinence.

The means for the prevention and the cure of the affections arising at this period, are the same. There should be an unusual action kept up on the skin, by the roughest rubbing of it daily.—During half of every day, very coarse flannel, or coarse oznaburghs, should be worn next the skin: by wearing it longer, the skin becomes so familiarized to it, that no effect is produced. A pair of drawers, and waistcoat for the body, is the best mode of applying this *irritating* dress. Of the utmost importance is exercise in open air, riding, walking, and throwing the arms around the body, as is sometimes done to warm the hands, or cutting a little wood, or any exercise like it. The diet at this time should be lessened for several months. Purges of salts or oils, not aloes or jalap, or any gum, should be taken to evacuate the system; and it is proper occasionally to lose a little blood, especially among the robust. It is of the utmost importance to keep the birth-place perfectly clean, as the retained secretions irritate and excite diseased action in the womb. Above all, keep the bowels daily open, and whenever irritation or pain is felt, try the general warm bath, or at least sit in a tub of warm water, and, until the pain goes off, remain quiet. When there appears to be considerable disease in the womb, to be judged by pains in it, and around the back, and by the sympathy of other parts with it, as pains in the stomach, head and breast, it is proper to apply a blister plaster between the

shoulders. In milder cases, the application of this plaster two or three hours, to redden the skin, without blistering it, will do much good. The injection of warm water up the birth-place, will also be of considerable service, as also injecting it up the bowels. If the inflammation of the womb be considerable, it will be proper to vary the injection; to substitute cold water and a solution of lead (a tea spoonfull to the pint) for the vagina. A large blister over the belly, to be dressed with mild sweet oil, will greatly assist in diverting the action from the internal parts.

I wish to impress you strongly, that you are not to seek relief from opiates, so generally and improperly taken. They add to the disorder, by stimulating the system, already too inflammatory—sometimes when the pulse is low. The warm bath continued, blood-letting, keeping the body quiet and cool, afford the safest anodynes in these cases.

By attending to these general directions, I can promise you relief from present pain, and from a distressing succession of future complaints. No lady need apprehend cancerous womb or breasts, who will give a reasonable compliance to what I have urged; nor, probably, any of the affections occurring at this revolution in the system.

FLUOR ALBUS, OR WHITES.

This is an increased secretion from the glands lining the vagina and womb; and it is an affection so local, that the constitution is seldom affected by it. The qualities of the discharge vary considerably. "In the mildest form, it is slimy, resembling the white of an egg, having very little colour or smell. In the next degree, it is of a yellowish colour, but the colour not very deep, and the discharge not offensive. In a greater degree of disease, the colour is inclined to green, and the discharge is slightly offensive, and somewhat irritating. In the worst form, it resembles purulent matter, is ill smelled, and frequently mixed with blood.

"The simplest and slightest kind is not attended with pain in the back; the general health not much affected; the strength scarcely diminished, though the back is rather weaker. The menstrual discharge is not interrupted, or irregular. In the next de-

gree, the back is constantly weak, and after any exertion aches considerably; the power of digestion is diminished, and the bowels are generally costive; the menses continuing pretty regular.— Sometimes there is a feeling of heat and itching about the lips of the vagina. In a greater degree of this complaint, the back is constantly painful, and very weak, and there is a feeling of much weight or relaxation about the lower part of the belly and top of the thighs. The menstrual discharge is either obstructed, or rendered irregular or profuse. The stomach is much impaired in its vigour, the bowels costive and flatulent; there is want of appetite, heart-burn, the face pale and unhealthy, palpitation, hysterical appearances, and the constitution seems altogether to be very much debilitated. This state is always productive of barrenness.

“The quantity of this discharge is as variable as the quality; in some cases very little, in others very profuse; in some continuing uniform, in others it increases or diminishes, or may altogether disappear for a day or two, or for a longer period. While the menses continue, the discharge of this disease often increases before and after the monthly period: sometimes when the menses are obstructed, it is greatly increased, attended with additional pain in the back; when the discharge comes from the womb alone, and not from the birth-place, it is sometimes interrupted for a day previous to menstruation; and if the patient conceive, it immediately stops. On the other hand, the discharge from the passage alone is often increased during pregnancy; and in some instances, takes place only at that time.

“This disease may arise from many causes, but particularly from those impairing the power of the womb itself: as a severe labour, or miscarriage—particularly if the patient get up too soon, and mismanage herself, or from profuse menstruation, or much fatigue, or exposure to cold at the menstrual time, or at any time, in the same way as discharges are produced from the glands of the nose, or wind pipe, which we observe in colds.”—
Dr. BURNS.

The treatment of this complaint depends on its degree; in slight degrees of it, washing two or three times a day in cold water, is sufficient. It is best to inject the water into the passage to the womb. In all cases, great cleanliness should be observed, as the

excretion remaining in the passage changes to an acrid, irritating state; and increases the secretion.

If the use of cold water do not suffice, it will be proper to use other articles that abate inflammation. The best is sugar of lead, about a tea spoonfull to the pint of water, injected at least three times a day. The same quantity of white vitriol, in equal solution, is also esteemed of great efficacy. Four or five times the quantity of alum, in the same quantity of water, may be used. A decoction of white oak bark, is highly recommended. If the discharge be very offensive, a small spoonfull of very finely powdered charcoal, may be introduced up the birth-place every night and morning. Sometimes a small quantity of laudanum may be added to the solutions injected. Such treatment will give present relief.

But it is of the greatest consequence to prevent its returns, by diverting the action of the blood vessels to some other part of the body. All the means pointed out for relieving profuse menstruation, must be pursued; they are to be applied in the one case as rigorously as in the other. The only additional direction I have to give, is, to apply a small blister, either between the birth-place and fundament, (called perineum,) or a large one on the small of the back, or in front of the lower part of the belly; at the same time, more freely using the injections, to restrain the action of the vessels in the birth-place. I conclude; urging you to preserve the general health by the means pointed out before, especially by exciting action on the surface of your body; and take great care never to let any old acrid matter remain on the part, or in the bowels.

HYSTERIC FITS.

The following description of this disease by Dr. Denman, is as good as can be given: In a well marked hysterical fit, a sense of pain or fullness is felt in the belly near the navel, or towards the left side. This gradually spreads, and a sensation is felt as if a ball passed upwards and stuck in the throat. The patient now usually falls down insensible, or convulsed, and seems to suffer much in breathing, sobbing violently, or uttering a kind of shriek. She is generally pale, and frequently apparently insensible during

a great part of the fit; or seems to be in a faint: but when she recovers, she is not only conscious of having been ill, but also of many circumstances which occurred during the fit. After remaining for a considerable time in a state of muscular agitation, alternating with an appearance of fainting, the affection abates.—She utters deep sighs, opens her eyes, and looks around her, as if surprised, and at length recovers both composure and sensibility, but remains for some time languid, and complains of headache. This restoration is accompanied with eructation, and the discharge of a quantity of limpid urine. The duration of the fit, as well as the circumstances attending it, vary much. In some instances, it lasts only a few minutes; in others, for more than an hour. Sometimes there is great muscular agitation, or pretty strong convulsions; at other times, the fit resembles more a faint. In some instances, violent fits of laughing and crying alternate with each other, whilst in many cases these symptoms are entirely absent.

Most women are subject to some of the irregularities of this disease, as manifested by too acute sensibility. The time is about the period of menstruation, when their systems appear to have great irritability. The acrid secretion coming from the womb, tends to irritate the external parts, and produce the disease: and it is also probable that it is frequently attended with some particular state of the womb itself.

They are most subject to it who lead a sedentary life, breathe foul air, and retain their excrement too long in the bowels. The acrid contents of the lower guts readily excite action in the adjoining womb, and produce disease. Next, the adherence of the ordinary secretion of the glands about the birth-place, which, irritating the sensible parts, cannot fail to produce similar effects. Lastly, irregularities in eating and drinking. The disease, once excited, is very apt to become periodical and appear without any exciting cause.

The prevention consists in guarding against the causes mentioned with the most earnest diligence. To sleep with the bedroom door open, and to take moderate exercise out of doors daily, is indispensably necessary; or by all means, they should sit daily in a tub of cold water. The excitement of any sudden or strong passions should be carefully avoided, as also indulging any length

of time in particular habits or whims. Travelling and salt bathing, are of great service. When it is necessary to open the bowels with medicine, it should be done with aloes, in preference to all other purges. Glysters are extremely advantageous. About the time the fit is expected, it is best always to take about five or six grains of aloes, as well as a glyster. Purging is very proper, as the contents of the bowels are always offensive in this disease. A desert spoonfull of prepared chalk, or as much charcoal in yeast, will tend to correct this offensiveness. The system of the person should be as much revolutionized, or changed, in order to destroy the habit of such returns of action, as possible. Bleeding in addition to the purging, is often requisite. An emetic may be given, with great advantage, before the expected time. The skin should be irritated by the roughest friction; the mind should be kept as mildly occupied as possible. This disease is most assuredly under the control of such treatment, earnestly attended to; and its recurrence among those aware of the prevention, affords grounds for reflection on their inattention and indolence.

The treatment when the fit comes on is very simple: Let the patient be placed in cool air, on the bed or floor, and turn and writhe, so long as they do not hurt themselves. This is to be prevented by holding them. Volatile salts, or any thing pungent or offensive to smell, should be held to the nose. It is said, a Yankee Doctor, not having any thing at hand, once successfully applied his toes to the nose of his hysteric patient. The limbs should be rubbed with a stiff brush. The moment it can be done, pour down the throat, either twenty grains of ipecacuanhæ, or a solution of three grains of tartar emetic, or a table spoonfull of antimonial wine. As soon as the vomiting commences, the fit generally ceases. After the operation of the vomit, you should give of aloes and asafœtida, of each four grains; this is to be repeated on any symptoms of the return of the disorder. If none be at hand, give thirty or forty drops of laudanum and any purgative. If laudanum be not at hand, use a glass of brandy toddy or wine, with hard rubbing in warm water.

It has been supposed that this disease arises from a peculiar state of the womb. Our means of operating on the womb are but few: we have none more powerful than through the breasts. I would therefore press on those subject to periodical returns of

hysteria, which do not yield to the treatment before suggested, to excite the breasts to their healthy action, the secretion of milk, so as to influence the womb. The means of doing this will be stated on the subject of barrenness, to which I refer.

HISTORY OF PREGNANCY.

At the sexual intercourse between man and woman, when the circumstances have been favourable for conception, the seed of the male is supposed to enter the womb of the female, and uniting with the seed of the woman, comes down through the tubes called the fallopian, and forms the commencement of our bodies.—At the same time is formed what is necessary for the growth; that is, a coat or covering to include the whole, and lining the womb, called the membranes; also, a fleshy substance, almost like the liver, called after-birth, or placenta. This after-birth receives and prepares the blood supplied by the womb for the child;—there is a tube passing from the after-birth to the navel of the child, called the umbilical or navel cord; the tube is for the purpose of the circulation of blood between the mother and child;—lastly, is also formed a liquid, called among women, the waters, resembling in its nature the white of eggs, a fluid in which the child moves. Thus the contents of a pregnant womb, formed in miniature at conception, are the child, the waters, the membranes holding them, the navel cord, and the after-birth. The natural history of their growth is thus stated by Count Buffon: “Immediately after the mixture of the seminal fluids, it is probable the whole materials of generation exist in the womb, under the form of a small globe. This globe is formed by a delicate membrane, which contains a limpid liquor, very like the white of an egg. In this fluid may be seen some small fibres, which are the first rudiments of the young. Upon the surface of this globe there is a net work of delicate fibres, which extend from one end to the middle, forming the beginning of what is termed the placenta, after-birth, or secundines, which is the part connecting the child to the mother.

Seven days after conception, parts of the child are distinguishable to the naked eye, very imperfect; appearing as of a clear

jelly, though of some degree of solidity. The head and trunk may be easily distinguished, it being of an oblong figure, the trunk being longest and most delicate. Some small fibres, resembling a plume of feathers, issue from the middle of the child (the navel,) and terminate in the membrane by which the whole is enclosed. These fibres are the rudiments of the tube connecting the young to the after-birth, called the umbilical cord, or navel string, which connects to the after-birth, or placenta.

Fifteen days after conception, the head and most prominent features of the face are apparent. The nose resembles a small elevated thread, direct over a line which marks the division of the lips; two black points represent the eyes; and we see two holes in place of ears. The body has also acquired some growth: on each side projections appear, which are the rudiments of the arms and legs. In three weeks, the body is a little enlarged; both the arms and legs are visible. The growth of the arms is quicker than that of the legs; and the fingers separate sooner than the toes. The internal parts now appear; the bones seem as threads. The ribs are disposed on each side as fine threads; the arms, the legs, the fingers, and toes, are also represented by similar threads.

At one month, the young, called the *fœtus*, is an inch in length. It takes a curved posture in the middle of the liquor that surrounds it; and the covering or membranes, in which the whole is included, are increased and thickened. The whole mass is about an inch and a half in length, of an oval or egg shape. All the parts of the face may be seen; the body is visible; the haunches and belly are prominent; the hands and legs are formed; the fingers and toes are divided; the skin is thin and transparent; the parts in the belly resemble a knot of fibres; the vessels are as fine threads; the bones are still soft, only a few places beginning to assume some degree of solidity. The vessels forming the navel cord extend in a straight line. The after-birth now occupies less space than in the beginning, though its solidity has increased, and it has become thicker than the covering or membranes covering the whole.

At the end of six weeks, the *fœtus* is about two inches long; the form is more perfect, only the head is longer in proportion to the other parts of the body. About this time, the motion of the heart is visible: in fifty days it was perceived to beat for a con-

siderable time after the fœtus was extracted from the womb. In two months, it is more than two inches in length; the formation of the bones being much more visible. In three months, it is near three inches in length, and weighs about three ounces.—Some women affirm they have felt its motions about this time; but it is difficult to be certain: motions in the neighbourhood are mistaken for those of the child. Yet the sensations excited by its first motions, depend more on the sensibility of the mother, than on the strength of the child. Before the end of the third month, the head is bent forward, the chin rests on the breast, the knees are elevated, and the legs folded back upon the thighs.—One of the hands, often both, touch the face. Afterwards, as it acquires more strength, it perpetually changes its position; though, in general, the head inclines downwards.”

It is at the fourth month, that generally the mother feels the motion of the child within, which is called quickening; and which in some produces very considerable alarm; sometimes sickness, hysterical symptoms, vomiting in the night and in the day, either repeated or not, for days. This motion is the only infallible symptom of pregnancy; and generally terminates the unpleasant sickness and diseases preceding.

After this, the development or growth of the child becomes much more rapid than in the beginning. At first the waters, membranes, and after-birth, were much larger in proportion to its size, than at this time, and every day this difference is increased till the birth, when, in bulk, they appear very inconsiderable in comparison with the child.

About the time of quickening, the womb may be felt floating, as it were, in the lower part of the belly; particularly if the woman relax the surrounding parts by not exerting them. Before this, while the womb is retained in the pelvis, upon putting a finger up the birth-place, while the woman is standing, the mouth of the womb may be felt, lower than in a natural state, as its additional weight causes it to descend. This is very perceptible for some weeks after conception. After this it enlarges, and appears ascending up in the belly, till it grows so large as to be unable to descend through the pelvis.

After conception, the breasts become rather smaller; but in the third month, they enlarge; the nipple is surrounded with a brown

circle, and frequently a milky fluid can be pressed out. The belly at first becomes somewhat flat, but very soon increases in size in the lower part. In the fifth month, the womb begins to render the belly hard, and may be felt as a ball rising to the middle point between the pubes and navel. In the seventh month, it reaches to the navel; in the eighth, half between that and the breast bone; in the ninth, it nearly touches that bone, particularly in first pregnancies, when the resistance of the belly prevents the hanging down, as in following pregnancies.

With some persons, generally in the best cases, after the expiration of nine calendar months, or forty-two weeks after menstruation ceased, the child is so well made, that it is able to live without connection with the mother, making allowances for a few days variation: and the delivery, effected by the contraction of the fibres of the womb, which are not designed longer to bear the irritation of such distension, takes place. Sometimes not till the hour of delivery, sometimes a few days, at others two or three weeks, the woman feels an increase of anxiety, busies herself for the reception of the infant, moves with difficulty, and frequently complains of restlessness, and pains in the back and loins. As the period approaches, her belly subsides most, in the most favourable cases; her discharge of urine is affected, sometimes suppressed, at others not to be retained; occasionally a lax, generally she is rather costive; and she perceives a discharge of mucus from the vagina, tinged with blood. But the history of this expulsion will be presently given.

As was remarked, the liquid called "the waters," in a healthy state, resembles the whites of eggs. Among many, however, this appearance does not exist, and the waters become of various qualities; sometimes extremely offensive. The quantity of the waters is also subject to great variations at birth; in some cases, there is scarcely half a pint, in others half a gallon has been found.

The means nature provides for the growth of the child are very remarkable. As stated in the commencement, the growth is entirely effected through the after-birth or placenta, which prepares the blood in the proper condition, as our lungs do for respiration; and then it is transmitted by the umbilical or navel cord to the child. The after-birth is a fleshy substance, its edges thin,

differing in weight from one to two pounds; it adheres to the sides of the womb, often to its upper part, called fundus, and receives the blood from the womb.

The navel, or umbilical cord, is composed of two veins, which come from the after-birth, and an artery coming from the child, twisted round so well, as to resemble one cord. The blood carried through the veins, enters at the navel of the child; thence, in proper vessels, is conveyed to the heart, and by it diffused over all the body for its growth. It returns from thence, and, by the power of the heart, is sent back through the artery of the cord to the placenta, or after-birth, where it again undergoes the change necessary for fitting it for the use of the child. The length of the cord through which it passes varies considerably. It has been known not to exceed six inches, and in other cases to be thirty inches. About eighteen inches is its ordinary length.

Some women, on conceiving, feel such an alteration in the state of the stomach, or in their sensations in general, as apprizes them of their situation. "But, usually, the earliest notice is afforded by the obstruction of the monthly discharge. This is an invariable effect of conception; but it must be recollected, that it may take place from other causes. Early after conception, the stomach is affected, heart-burn, sourness on the stomach, want of appetite, disgust at the usual food, and sometimes a craving for things formerly not desired. Frequently the woman is sick in the morning, vomiting after getting up, though some are only sick in the afternoon, sometimes troubled through the day with qualms, faintness, and inclination to vomit. Some have a constant desire to spit, have the tooth-ache, cough, and other affections of variety of kind and duration, differing in every case.

In some cases, the complexion greatly suffers in pregnancy, the features being affected, as in cases of children with worms; in other cases, the looks are much improved. Sometimes the pulse is as common, though generally it is quicker. Perhaps there is no woman who does not undergo such an alteration in parts or the whole of her system, after conception, as would enable an attentive observer to ascertain the fact. But it is enough for you to know, that there is no one certain sign of pregnancy, excepting the visible motions of the child. In all those cases where doubt exists, and the object is to ascertain the fact, for

purposes of punishment, both men and women should unhesitatingly decide on the safe side, suspending all judgment, till proof be unquestionable.

CAUTIONS DURING PREGNANCY.

In order for you to discover the very best modes of conducting yourselves during pregnancy, you have only to make a few common observations, and exert a little common sense. The course pointed out by nature, pursued by all the pregnant animals, from inclination; by the women in the lower classes of society, and in the savage state, from necessity, is the course you must discover, is the proper one for you to pursue, in order to ensure successful child-bearing. It is known that all our domestic animals: mares, cows, sheep, and the like, produce the best young in the largest pastures; and that women moving about in the country have much finer children than those leading sedentary lives in town. Is it necessary that I should press on you the truth, that moderate exercise in open air, not by starts, but long continued, with simple diet, regularly taken, so necessary for the health of your bodies at all times, is more especially so, during the critical period of child-bearing? It is to be regretted that so many pregnant women lead such inactive lives, not only on their own account, but on account of their children; for doubtless, it is owing to the sluggishness of the actions of the mothers that so many in society are mere masses of flesh and blood. Among the Indians, such want of genius could not be found. Pray believe the declaration, that it is necessary to take the trouble, to make efforts to secure what we want. If you desire health, you must take the trouble to walk or to ride about every day; to breathe a fresh, pure air by night and day, as well for your own as your infant's sake. You must confine yourself to a plain, simple diet, abstaining from every thing stimulating; keep your bowels regularly open, and sit daily in cold water. Your sleep should be regulated with great attention; night companies abandoned, and all exposures, particularly to such as may suddenly alarm you. Your dress should be loose, without tight bandages binding any part of you. I will not speak of your lacing yourselves, confining your waists, compressing your breasts and the contents of the womb; because the

laws are defective in their operation, for not giving prompt punishment to the mother, who, from feelings of vanity, becomes accessory to deforming and destroying the unfortunate contents of her womb.

I again give you the caution of voiding your urine frequently, and particularly, on having the least desire; which was pressed while treating of the womb. You should refer to it, and remember that the mischiefs of inattention may be incalculable.

As of next importance to the evacuation of the bladder, is the daily evacuation of the bowels. What I have urged on this subject before, I would press with increased zeal on pregnant women. It is of ten times the importance during pregnancy. The womb pressing on the lower gut, lessens the ability to evacuate; but persevere, and do not remit, till daily at the same hour your bowels are opened. Some have neglected this to such a degree, that they have had a confined column of excrement in their bowels of great length, requiring that they should have it scooped out with the handle of a spoon. If you cannot have a natural evacuation daily, from your own efforts, take an injection; there will be in the end a real saving of trouble by the operation.

The system of women during pregnancy, is always more or less inflammatory; even among the emaciated. Their bodies convert the fat of every part into the circulating blood; which, when drawn, has the buffy coat, characteristic of the high action of their bodies. There is generally increased irritability of temper, marked by great fretfulness; requiring soothing, not provoking returns. Those who are well should commiserate them; and those pregnant should labour to restrain their petulance and violent temper; constantly bearing in mind, that their acuteness of feeling arises not from the hard circumstances in which they live, but rather from a morbid action in their bodies.

This irritability of the system and mind may be lessened, by a moderate use of the mild tepid bath. The hot bath has produced abortion; but sitting in a long vessel of milk-warm water, covering thighs and legs, having it gently poured around the belly, the skin slightly rubbed with a soft hand, will have a strong tendency to preserve and equalize the healthy action of the womb and adjacent parts.

DISEASES DURING PREGNANCY.

Some women complain greatly of pain in the pubes or front bones, particularly in advanced pregnancies. The womb hangs over the pubes, presses on them, and produces this uneasy feeling. This complaint may be lessened by the above bath; but most by wearing a bandage around the shoulders, extending down each side and around the under part of the belly, so as to support it. This at the same time prevents the belly from hanging over, and becoming so pendulous after delivery. The application of the bandage should be when the person is lying down; it should be very wide, several inches where the belly rests on it; and drawn so as merely to be felt in that position. When the woman rises, the abdomen will rest on it, and great support will be derived from it throughout the day.

Some women have the lower bowels inflamed by the pressure of the womb, and also a constant desire to void the excrement.—The relief for this is moderate blood-letting, sitting in a tub of warm water, and a slight purge of salts or oil; rest, and laying on the belly will be of service. Sometimes the piles are particularly distressing in pregnancy, to be relieved by the means which will be pointed out, when treating of their cure.

SICKNESS OF STOMACH.

The next complaint I shall mention, is sickness of stomach and vomiting. Generally this does no harm; but when excessive, it is to be relieved by moderate bleeding, by keeping the bowels open, by cupping, or applying leeches to the stomach, and rubbing laudanum over it; also, with the application of hot cloths to it. The saline draught, made of lime juice and salt of tartar in effervescence, is very good. Soda water has been drank with success; lemonade, and the like common articles. The internal use of laudanum should be avoided; though sometimes stomachic or cordial medicines become requisite.

HEART BURN.

For heart-burn, the general prescription is prepared chalk, a tea spoonfull mixed in water or milk at a dose, every two or three hours. A little soda, potash, or magnesia, may occasionally be taken; sometimes gum arabic and liquorice have done service.—The best remedy is a few drops of spirit of hartshorn. I have known large quantities of warm water, quickly drank, to relieve the symptoms; gentle vomiting, in distressing cases, might be tried, excited by putting the finger down the throat. A little bleeding has sometimes done good; and regular exercise seldom fails to produce the like effect.

COLIC.

In cases of colic, or pains in the bowels from flatulence, when violent, blood-letting should be resorted to, if not at once relieved by injections of warm water; a moderate purge of oil, salts, manna, or cream of tartar, should always be taken. The bowels, during colic, should constantly be kept open, by keeping a piece of soap in the fundament. Sitting in a tub of warm water, or applying hot cloths wrung out of hot water, will alleviate the pain. A little peppermint sometimes affords relief.

SWELLED LEGS.

Swelled legs are very common in the pregnant state. Towards the last, they are often a source of pain and great uneasiness.—They are produced by the pressure of the distended womb on the vessels returning the fluids from the lower extremities. Generally they disappear at night, and return daily, particularly in the evening. Fortunately they are not dangerous. A recumbent posture lessens the swelling considerably. Moderate bleedings occasionally are requisite. No local remedies afford half as much relief as wearing laced stockings; sometimes the common stockings, lengthened so as to reach to the body, and fitting very tight, answer sufficiently; these resist the distension, and support the parts; delivery always terminates this disease.

During pregnancy, women are always subject to the same complaints as in the unimpregnated state. For their treatment, professional characters should always be consulted. They should bear in mind that their systems in this situation are very inflammatory; and that the remedies ought not to be so strong as in other states, particularly when applied to the bowels. Powerful purgatives should never be taken; and all that shocks the system should be carefully avoided.

CRAMP.

Doctor W. Moss, a most excellent and judicious writer, of Liverpool, states, on this subject, that "the cramp is not an uncommon attendant on pregnancy, and will attack those at this time, who seldom or never have it at any other. It seldom comes on before the fourth month, and is most common at the latter parts. It most frequently attacks in the night, in bed, in the legs, sometimes in the thighs, hips, and belly.

"Getting up, and standing barefoot on the cold hearth, is a common remedy, and, so far as I have observed, is a safe one.— In cases of costiveness, keeping the body open will frequently mitigate it; as also bleeding, when it is severe and frequent. It will oftentimes be rendered more severe by unusual exercise or fatigue. If instead of the usual way of rubbing the cramped part with the hand, the part is strongly pressed or grasped with the fingers and hands, more present and temporary relief will be had."

Pouring cold water on the part, rubbing with a woollen cloth briskly, and sleeping under fewer bed clothes, will be found of service.

FLOODING.

The most important and fatal of all complaints to which pregnant women are exposed, is what is called flooding, or loss of blood from the womb. This is brought on by alarms, falls, jolting, over-action, and sometimes from no visible cause. The membranes lining the womb, particularly the after-birth, separate from their adhesion to the womb, and the large blood-ves-

sels entering into it, discharge the blood, which then passes through the mouth of the womb in large quantities. The complaint is the more alarming, as the danger is of the most imminent kind when least apparent. Death frequently ensues with very inconsiderable warning.

The treatment of flooding requires much attention and skill.— In all cases, medical aid should be had the moment the disease appears. If it cannot be had, you must make the patient continue in bed, as cool, and with as much fresh air, as will be tolerably comfortable. In the beginning, she should always be blooded freely, rapidly, so as to produce fainting, which should never be checked, as it is at this moment that those clots of blood are formed, which put a stop to the flooding. If no one can be had to bleed directly, bandages around the arms and thighs, so as not to hinder the pulsation, may be applied until the arrival of a bleeder. Cool air being admitted, the bowels should be opened with a clyster of cold water: every thing heating, as warm clothing, stimulating drinks and diet, should be avoided. If the blood continue to flow considerably, stuff up the birth-place a cloth to stop the passage. A cold wet cloth on the belly will tend to stop the discharge: this should be renewed every two or three hours;—a bag of ice is the best application. These cold applications (sitting in cold water has been found good) should not be continued so long as to produce chills. If the bleeding still continue, two grains of sugar of lead should be given every hour, until it ceases, or until five or six doses are taken; about twenty grains in a quart of water, one-fourth injected in the bowels, and the remainder used in washing the birth-place, will expedite the cure: it may be repeated two or three times. Almost always these remedies relieve the discharge for the present. The great danger is in its return. In order to prevent the return, no matter how well the patient feels, she must continue in bed two or three weeks, cool and quiet, and ready at all times to apply the cold, wet rags up the birth-place, in case of return. I warn you not to disregard this cautious conduct; if you do, ten chances to one, you are dead without an hour's warning.

When the flooding returns, in great degree, in spite of all efforts to prevent, the woman becoming extremely pallid, showing excessive loss of blood, but one remedy is left, and that is to pro-

duce an immediate abortion. Unless the danger be very pressing, the advice or direction of a physician should be taken before the destruction of the child. It should, however, be always remembered, that the life of the child is not to be compared with that of the mother. A forced delivery being determined on, a woman with small hands should be the operator.

The patient should lay on her side, her thighs drawn up near her belly, with a pillow between them. The woman operating should grease her right hand well with the mildest lard or oil, and folding her fingers together as round as possible, should very gradually introduce or push them up the birth-place, gently dilating or extending the parts as she carries her hand forwards.—When her hand arrives at the mouth of the womb, she will perceive its edges or lips, and between these she must gently insinuate her finger, so as to pass through the membranes holding the waters: this being done, the waters immediately flow out, and the womb begins to contract. If the flooding cease in this stage, it is well to stop; but if the womb appear relaxed, not contracting, it is necessary to go on, gradually insinuating the fingers in the mouth of the womb, then opening them gently so as to enlarge it; then still gradually introducing the hand and arm, and passing the head of the child, feel for a foot, which you will distinguish by the heel, the toes, and the difference in its feel from the hand, if you hold it as if to shake hands. After taking hold of the foot, it is to be brought down to the birth-place. But the following from Dr. Bard, is a better description of the operation than I can give: “Introducing the hand into the womb, turning the child, and delivering by the feet, is an operation seldom attended with much difficulty or danger, provided it be performed early, before the waters of the womb are fully discharged, and with due deliberation and caution. Whenever it is determined on, let the woman be brought down to the edge of the bed, still lying on her side, or, as I have generally found most convenient, on her back; her hips a little raised, and her feet supported on the lap of an assistant on each side; whilst a double sheet spread under her, over the laps of the assistants, and that of the accoucheur, (sitting on a low seat before her,) protects her from cold, and another thrown over her, forms a decent covering. The hand then lubricated with good oil, or fresh hog’s lard, and the fingers collected into a

cone, is to be gently and slowly introduced, through the vagina to the womb; which, in some women a little advanced in life, especially in case of a first child, may make so much resistance as to require an hour or more, employed in gradual and cautious efforts to overcome, when the circumstances of the case will admit of such delay. The internal orifice is next to be dilated, by introducing first one finger and then another, until by slow and gentle attempts it will admit the hand; remembering always, that by the natural contractions of the womb, the orifice will be more safely and easily dilated, than by the finger. Whenever, therefore, the pains occur, our efforts to dilate are to be suspended, and the pains are to be permitted to produce their effect on the hand. When the pain ceases, a gentle distension is again to be made, which will probably soon occasion another pain; which is again to be permitted to produce its effect. And on some occasions, just as the hand is passing into the womb, it is to be opened and laid flat, lest a violent contraction on the knuckles should injure, perhaps rupture the neck, which is the part most liable to such an accident. The orifice of the womb being sufficiently dilated, if the hand can then be easily passed over that part of the placenta which has been already separated, until it reach the membranes, that is to be done; and, breaking the membranes, it is to be immediately passed into the womb. But if we cannot readily pass the separated portion of the placenta, and the flooding be profuse, it may be necessary to pass through the placenta; which is less dangerous either to the mother or child, than to separate a larger portion, by passing the hand between it and the uterus. The hand being introduced into the womb, the neck will generally cling so close round the wrist as to prevent the escape of much water, and we shall find room to act with freedom; and as the same pressure generally suspends the hæmorrhage, we may take time for deliberation. It is therefore generally proper at this period to rest a few minutes, to recover any fatigue we may have sustained; and to refresh the woman by some proper drink, whilst we deliberate on the circumstances of the case, consider the position of the child, and the readiest way to get at the feet. It will be recollected, that the most natural presentation is the most common; and that in that case, the child's head is at the brim of the pelvis, with the face and belly to the back

of the mother, the knees bent to its breast, and the feet towards the upper part of the womb. As, therefore, the child must ultimately be turned, this may be the best time to push the head and shoulders up towards the fundus, and to turn the face of the child to the back of the mother; which is most easily done within the membranes, and by which the feet will be brought within reach of the hand; and having secured them, they may be easily brought by a waving motion into the vagina. It is always best, when it can easily be done, to bring down both feet; one, however, will answer, and generally the child can be turned and delivered by one, with nearly as much ease as by both. In bringing down the feet, bend them a little to either side where you find most room, and remember always to desist during the action of a pain, and proceed again during the interval. After this, we may take the assistance of the pains in delivering the hips and body of the child; cautiously extracting during the pains from side to side, and from pubes to sacrum. As the hips are brought down, carefully consider again how the child lies in the womb; with its belly to the belly or back of the mother; and take care, if it shall be necessary, to turn it gradually, so that by the time it shall be delivered as far as the arm pits, the belly of the child shall certainly be to the back of the mother, which is the position in which the arms and head can be most easily delivered.— And now, or rather somewhat before this, examine the navel string, and occasionally pull it down a little, so as to prevent its being put on the stretch. If the pulse in the navel string be strong, and the flooding suspended, we may still proceed with deliberation, and take the assistance of the pains in accomplishing the delivery. But if the pulsation has ceased in the cord, or if the woman floods freely, either the child or the mother may be lost by delay; and it becomes necessary to finish the delivery as soon as we prudently can. If, therefore, the child's arms make any resistance, introduce one finger under the pubes, and carrying it along the child's arm to the elbow, pull that down a little, then go on to the wrist; it will easily turn down into the hollow of the sacrum, and be delivered: the other arm will be still more easily delivered in the same way. But let it always be remembered, that caution and dexterity are more necessary than force; by which, unskilfully applied, there will be great danger of breaking the

child's arms. Having delivered the arms, lay the body of the child on your left arm, and passing two fingers of that hand into the vagina, introduce them into the child's mouth, and draw the lower jaw down a little, so that, if possible, you may extend the fingers above the mouth along the child's nose; then placing the fingers of the right hand across the child's neck, again cautiously extract during the pains, sometimes pulling down towards the sacrum, again up towards the pubes, and from side to side; and again pushing down and backwards towards the hollow of the sacrum, so as to free the occiput from the pubes. The chin being brought down, stand up, and raising the back of the child towards the belly of the mother, the face will turn out from the perineum, and the delivery be finished.

In giving this description, I have purposely supposed the most favourable circumstances that occur in a case of so much importance: the hæmorrhage to be restrained by the introduction of the hand, and the greater part of the waters to be retained by the wrist plugging up the orifice of the womb; that I might describe the successive steps of the operation minutely and distinctly: but we must not flatter ourselves, that this will generally, or even frequently, be the case. There are few situations of greater terror or alarm, than a woman flooding at the latter end of pregnancy; and we are frequently called on to decide instantly, and to act promptly; yet we must never suffer ourselves to be confused or hurried: for, even during the operation, many occurrences may happen, which call as much for cool reflection, as for prompt and ready execution. Of these I shall take notice in describing those preternatural cases in which they are most likely to occur. In many of these cases, women are so much exhausted by loss of blood, that, even after a safe delivery, they require great attention to recruit their strength and save their lives. Rest, promoted by small anodynes, in some cordial julap, such as spirituous cinnamon water, or what can always be had, good toddy with nutmeg, are the remedies first called for: these must be succeeded by small portions of nourishing diet, frequently repeated, and by tonics, in which an infusion of the Peruvian bark and cinnamon in claret, agreeably sweetened, makes a pleasant and efficacious mixture.

However, of late there has been discovered an article called ergot, which is the musty, dark looking heads of rye, found in

most fields of rye when nearly ripe. These heads, reduced to powder, are used, it is said, on good authority, for producing abortion, without injuring the mother. The dose is twenty grains mixed in a little molasses and water; and it is stated, that the operation is such, that immediately after being taken, the contraction of the womb commences. Whether this medicine will supersede the manner of producing the delivery above pointed out, remains to be determined by experience. Even if it succeeds, agreeably to expectation, I would prefer the mode of suppressing the flooding by perforating the membranes with the finger, since without introducing the hand into the womb to turn the child, as above described, this perforation or bursting of the bag of waters has been successful; more perfectly so than I supposed, on writing the first part of the operation for turning. I would therefore always recommend for flooding in excess, the perforation of the membranes with the finger, before attempting to turn the child, but at the same time giving a dose of ergot.

ABORTION.

Connected with floodings during pregnancy, is abortion, or premature discharge of the contents of the womb, ending in its destruction. Not having had any particular experience on this subject, I give the best brief view of it from Dr. Bard; a few words of which are changed.

Abortion happens frequently, and deprives women of their health and happiness. Very strong and very weak women are most prone to it; but the numbers of the strong bear no proportion to those who are of delicate constitutions; the numbers of active country women, to the more indolent and inactive inhabitants of cities; the number of women of good sense, of calm and steady minds, to the weak, irritable and passionate; hence a most important lesson may be learnt, that good health and a good education are the best preventives. It then, in a great degree, depends upon mothers, upon the care they take in rearing their girls, restraining the indulgence in all passions, to lessen this great and common evil.

Another observation is, that women who have once miscarried, are apt to miscarry again at the same period, from the same cau-

ses, and with the same symptoms. So that if the habit be once acquired, it becomes difficult to remove. Hence the importance of great care in young women, not to miscarry in their first pregnancy: and the propriety of particularly guarding against the causes that produced it at first, in all following pregnancies.

Miscarriages are most apt to occur between the eighth and the twelfth week, and from the fifth to the seventh month, periods which will require particular attention; though a prudent care is at all times necessary, as the cause of the miscarriage may, and commonly does exist at a much earlier period than that at which the abortion occurs.

The causes of abortion may be reduced to the death of the child; to the separation from the womb of the bag or membranes enclosing it; and to the disordered contraction or action of the womb.

That the child may die, independently of any disease in the mother, has been proved by many cases in which a healthy mother has discharged it, with marks of considerable disease.

A frequent cause of abortion is the separation of the membranes lining the womb, and surrounding the child. The extreme delicacy and tender structure of the vessels connecting this membrane to the womb, especially in the early months of pregnancy, renders the separation not very difficult, by slight causes: hence miscarriages happen most frequently between the eighth and sixteenth week. Yet the cause operates much earlier; for sometimes, before a small rupture occurs between the after-birth, or any part of the membranes and the womb, the blood is gradually effused; thereby increasing the separation, till the womb, being excited to action, expels its contents. This cause of miscarriage cannot be detected before labour, and is proved only by the expulsion of a quantity of coagulated blood, immediately before or after the delivery. The causes of the separation of the membranes from the womb, are, generally, too much fulness of blood in the system, arising from free living and little exertion, indulgence in excessive joy, sudden or violent exercise, awkward postures, stimulating food or drink, costive habit, and excessive passions. These operating most directly after marriage, require that greater attention should then be paid by women to guard against them. The

remedy for this state, is moderate bleeding, keeping the bowels open, and temperance and regularity in every action.

The disordered action of the womb itself, is a great cause of abortions. Disorders or affections of any part in the neighbourhood are apt to produce it. This points out the propriety of promptly treating any affections about the pelvis in the most judicious and mild manner. The warm bath and bleeding are the great remedies, and should be administered by the ablest physicians, for all the complaints of these regions, in pregnancy.—From the recurrences of abortions, the womb is very apt to get in such a state, that it will not enlarge beyond a certain size; and as soon as it arrives at that size, it contracts, and expels its contents, as if from habit. This affords a powerful reason for doing all that can be done to prevent the formation of the habit, by preventing the first abortions.

The signs of approaching miscarriage, are absence of the morning sickness, subsidence of the breasts, a discharge of blood or of water from the birth-place, and regular labour pains. A coldness of the belly, or sense of weight, and cessation of motion after quickening, are said to denote the death of the child; but this is very equivocal, as many women have produced healthy children, when, from these symptoms, they were supposed dead for some time. In no case should the woman act carelessly, as she may be mistaken, and as the delivery will be always easier and safer when left to nature, than when hurried.

A discharge of blood from the womb, although a very frequent and generally the most important symptom, is not always followed by miscarriage; as you will find, by reference to what was said on floodings.

Doctor Burns observes, when abortion is going to take place, the patient feels pain in the back and lower part of the belly, with uneasiness like colic, and a sensation of slackness. This state, if not preceded, is soon followed by a discharge of blood, and presently regular bearing down pains are excited. The discharge is sometimes from the commencement red and profuse; but in other cases, it is at first rather watery, or sparing in quantity; presently it flows more copiously, and considerable clots come away, often pieces of skinny or fleshy looking substance may be discovered.

In some cases, there is much pain and little discharge; or the reverse may happen, or both may be considerable and protracted. If the miscarriage takes place at a very early period, little can be detected except clotted blood; but if every thing be put in a basin of water, sometimes a more solid substance may be observed, like a chesnut, which, when examined, is found to contain a small bag of water with a child in it, no larger than a bee. If the third month be completed, we find that the whole conception comes away at once, like a bag covered with fringed vessels; or, if the bag burst before it comes away, a gush of water takes place; by and by the child is expelled, and some time after, the after-birth comes away. Abortion is sometimes preceded by shivering, attended with great pains and a feeling of sickness or sinking about the stomach, or a tendency to faint; occasionally the patient is greatly troubled with wind in the stomach or bowels. But the symptoms vary in each case, as does the duration. In some, the whole process is over in six hours; in others, it is protracted for many days.

The treatment of females during a miscarriage, is clear and simple. On the least attack, or symptoms of its approach, they should go to bed, with a resolve not to rise until the event is decided. If of a full habit, they should be bled. They must be kept cool and quiet, avoiding every thing heating, drinking only cold water, or some weak tea. The bowels may be opened by injecting warm water. Sitting in a tub of warm water will always lessen the irritation of the womb. The application of large quantities of sweet oil around the back, belly, and breasts, will also have a considerable effect in allaying the action.

When the expulsion has actually commenced, it is impossible to prevent the completion. The woman should keep quiet, as in common labour. A cold, wet rag to the belly will promote the contraction of the womb. Sometimes the contents of the womb (called ovum) lodge either at its neck or in the birth-place; when it is proper to introduce the finger, and move it from side to side for hurrying its expulsion.

The after treatment, particularly in full habits of body, is to evacuate freely by bleeding and purging, with salts, cream of tartar, and oil. From neglect to do this, inflammations have come on, ending in lamentable derangement of these parts; as cancers,

dropsies, and barrenness. The treatment which cures the tendency of the system to abortions, is not so very certain of success. Before pregnancy, bleed, live low; to take regular and gentle exercise, to avoid violence and excesses, to salivate, and to change the general habits of the body, as well as residence, are the general prescriptions which have done good.

The course I would prescribe, is to revolutionize every habit, to eat a different diet, particularly using sweet oil; to take a new exercise; to arouse the system every morning by the shower bath of salt water, to apply the flesh-brush to the skin every night.—When conception has taken place, the most gentle exercise, regularity in eating simple food, and evacuating the bowels, daily applying sweet oil round the back and belly; to keep the birth place free from all irritating matter, by nightly washing in warm water; to bleed on the slightest feel of fever or fulness; and to preserve the breasts in a state free from irritation, by applying sweet oil to them and keeping them unconfined. Above all, I would the most earnestly recommend, as the most certain cure, to have the breasts drawn, particularly after an abortion. When the abortion has taken place, a child or grown person may suck the breasts, and milk will be secreted. This secretion of milk should be kept up for six or eight months. In one instance, in my neighbourhood, a child was taken by a lady who was subject to, and then had an abortion, and she raised it in good health. After a few months, the lady became pregnant, and, to her great joy, passed, for the first time, to her full time for delivery. This is, unquestionably, the most certain mode of enabling a woman to pass to her full time, which has yet been discovered.

BARRENNESS.

Inability to conceive, is a misfortune, distressing many women as much as habitual abortion. It is often followed by constitutional affections, of fatal tendencies. The cure has been sought after with great earnestness.

In some instances, barrenness proceeds from defective organization. These cases are, however, very rare, and cannot be cured by art. The next general cause is a torpor, and irregular action

in the womb and its appendages, which often yields to judicious management.

The general means of relieving this misfortune, which have been prescribed, are to revolutionize the system, to travel, to excite action on the surface by the salt bath, to vary the exercise and habits as much as possible; and in some instances, salivation has been resorted to with good success.

Viewing the subject of the propagation of our species in an important light, I early gave it considerable attention. The theories published on this subject, appeared too defective to be satisfactory. The result of my investigation, as will appear on reference to the Medical Repository, was, that the presence of a pure, vital air was necessary for successful copulation, or the first excitement of animal life; that in a foul, impure air, impregnation could not take place. These inferences appeared the more correct, as those who cohabit like the negroes, in open fields, at the sides of hills, seldom fail in impregnation. All the animals of creation require a similar pure air. It follows of course, that the connection in the foul air of beds, which will often extinguish a candle, is improper: that persons solicitous of success in the business, ought always to get into fresh, pure air: that, for a like reason, when the birth-place secretes freely, it should be well wiped, as the secretion might absorb the pure air.

But the great, the important means of rousing the womb, will be found in exciting the breasts to their natural action. The connection between the womb and breasts, has been often remarked; it is scarcely possible to excite an action in the one, without affecting the other.

The most natural action for the breasts, is the secretion of milk. They have often been excited to the discharge, without pregnancy. A child losing its mother, and sleeping with a female friend, has been known in the night to get the nipple in the mouth, and to excite milk by the morning: the discovery led to the resort, and the child was abundantly nourished at the breast of the maid. Would it be indelicate or disgraceful—nay, would it not be very commendable, as it would be serviceable, for many single women to undertake this office for motherless infants? There are circumstances in which surely it is loudly called for.

There can be no question that any female breast may be excited to the secretion of milk. The means are simple. The woman should drink freely of any liquid, and live freely. The breasts should be handled frequently, rubbed with the softest hand, bathed in sweet oil, and a warm poultice applied over the whole of them for an hour. Then it should be removed, and the breasts still be handled and sucked gently, at repeated intervals throughout the day, for several minutes. Particularly every morning, noon, and night, the operation should be renewed until the secretion comes. A young dog has often been used for drawing the breasts. When the action is excited, it should be kept up for months, by daily sucking them: about the time of discontinuance, or sometime after, impregnation may most probably be effected. There can be no doubt of the womb being more acted upon, more roused to natural action by these means, than any other we know; and they ought long since to have been tried. I repeat the declaration, that I have had it actually done with complete success; the good effects of which, in one instance, exceeded expectations.

OF LABOUR.

WHEN labour commences, there are slight and flying pains over the belly; the womb appears to contract, or, as the midwives say, it falls down, or descends lower in the belly, sometimes even for some days previous. Gradually these pains increase, and the intermission between them becomes less. The pains are produced, unquestionably by the contraction of the fibres of the womb, and differ in severity according to the peculiarity of the person; in some being so slight, the child has been evacuated in the necessary, without a knowledge of the birth. Many other parts of the body become pained, in consequence of their sympathy with the womb. Generally in a few hours, sometimes in less than an hour, the business is completed; of the rapidity of which, some idea may be formed by the rapidity of the pains or contractions.

The following excellent account is from Dr. Denman. About the commencement of the opening of the mouth of the womb, by the pushing forward of its contents, the anxiety of the woman appears to be greatest; her manner excites great sympathy, and it is

necessary the attendants should console her, and do nothing, whatever may be the entreaty of herself or friends. In the beginning of labour, there is frequently one or more chills, called *rigors*, with or without a sense of cold in parts of the body, which being void of danger, and showing that the whole system is occupied in the business, ought not to be alarming. There is frequently an inclination to void urine, sometimes an inability to retain it: sometimes an inability to retain the excrement, and a constant discharge of it, which is to be indulged in the beginning, aided by a clyster of warm water, if convenient; care being taken not to sit down low for the evacuation, lest the child should be thrust out. If the evacuation can be had lying down, it is always best. There is a colourless mucus discharged from the birth-place, which is sometimes tinged with blood, and is called a shew.

The pains of labour return periodically, the intervals between them being of different continuance. In the beginning, they are slight in degree, and have long intervals; but, as the labour advances, they become more violent, and the intervals shorter.— Sometimes the pains are alternately strong and weak, or two weak, then one strong; and there is reason to think that every variety has its advantage, by being suited to each patient. In every circumstance, continues the Doctor, which relates to natural labour, it is impossible not to see, and not to admire the wisdom and goodness of Providence, in making the power, and fitting the exercise, with a marked regard to the safety of both mother and child. This should afford a lesson of patience to those females who become intractable, losing their self-possession, add to the evils of their situation: as well as to those practitioners, who, being led away by popular errors, attempt to add to the strength of the pains, or to quicken their returns; acting as if they thought there was no other evil to be dreaded but a slow labour: *which has done more mischief than the most skilful practice has done good.*

Although there be some repetition, I give the following from Dr. Burns, to impress the more on your minds the general history of labour.

The first stage of labour is preceded or accompanied by a subsidence of the belly; and the child is often felt, even for some days, to be carried lower than formerly. The pains at first are

short, and come seldom. They go entirely off during regular intervals; but they often leave a considerable degree of general uneasiness, so that the woman feels restless and uncomfortable, or is hot and cold by times; and in some cases, has a sensation of sickness, or gripes, or a troublesome desire to make water. The pains are usually felt chiefly in the back; but in some cases they often skip to the fore part of the belly, or are from the first felt there. They are at first very slight, and but only for a short time, perhaps not half a minute, and return at the interval of fully half an hour; but they come on with more frequency as the labour continues, and are felt lower down in the back, short around to the top of the thighs, and cramps are also occasionally felt in the legs. They are also attended with an inclination to catch at, or take hold of a chair, or of any thing which is near.

The pains, after a short time, gradually increase in sharpness and frequency; they often seem to decline for a time, after which they again become brisker. There is a great diversity in the situation and degree of the pain: for in some cases it is felt chiefly in the belly, in others in the back; sometimes it is attended with shivering and trembling, in other cases with sickness and vomiting. These circumstances, though unpleasant to the patient, are by no means unfavourable, but, on the contrary, often called a quick labour.

This stage is attended with a discharge of slimy fluid, which, when the orifice of the womb is considerably opened, becomes of a red colour. These pains are often sharp, and seem to be doing no good, and the woman is apt to become restless and fretful; and as they are sometimes attended with sickness, heart-burn, and vomiting, she becomes impatient and depressed in her spirits.

These pains proceed from the attempt made by nature to dilate the mouth of the womb, and they must continue till this be accomplished. The complete dilatation is assisted and rendered both easier and frequently more speedy, by the protrusion, through the mouth of the womb into the vagina, of part of the bag which contains the child, and the water which envelops it. The degree to which it is pushed out of the womb, during a pain, varies much in different cases. Sometimes it forms a very slight projection; at others it is very bulky, as large as a child's head; when these

membranes begin to be pushed down, the water is said to "gather."

The mouth of the womb being considerably opened by these operations, efforts are next made by the system to press down the child, to empty the womb. These produce a change in the pains, which are attended with the inclination to press down. This gradually increases, and at last the sensation of bearing down becomes very strong, almost irresistible; and it is observed, that though the pains be strong and forcing, they produce less complaint, than those which in the beginning of labour appeared to be less severe. There is a great variety in the duration of this part of the process. It is sometimes gradual and slow; in other cases, sudden and rapid. The pains may be strong and forcing, have very little interruption; may come on at regular periods, with complete intervals of ease.

During this period, the bag, or membranes holding the waters, in which the child lies, usually bursts, and the liquor contained is discharged, at least the greater part. This event is soon followed by an increase of the pains, which become more forcing, and the spirits of the woman rise in proportion. At length the head of the child advances to the birth-place; sometimes it seems to draw back; again it advances and distends the external parts gradually and repeatedly; this being designed for their dilatation. The parts dilating, the head at length passing, gives a momentary relief to the woman. In a few minutes the pains return, the body of the child is expelled: it begins to cry as the air penetrates its lungs; the woman appears, from the release of pain, and the pleasure of being a mother, to have the happiest feelings.

In a few minutes after, differing in each case, the womb continuing to contract, the pains are felt, and the fleshy substance, called the after-birth, or placenta, or secundines, with the membranous bag which contained the whole, and clots of coagulated blood, are all expelled by a similar operation; the pains being half as severe as those attending the expulsion of the head.

The duration of this process is various, but it is generally longer in the first child than afterwards. This is particularly the case in the second stage of labour, when the external parts being rigid, not having been dilated, most remarkable in those marrying late, the passage of the head is delayed. Some women are

always expeditious, others tedious in the operation. Some have the waters discharged early, others not till the child is born.—Some have much sickness, as retching, shaking; others none at all. In short, there is a great variety in these respects with different women, or with the same woman in different labours. In a natural labour, the whole process is concluded within twenty-four hours; oftentimes in a much shorter period.

DUTIES OF ATTENDANTS.

With this description of natural births, I proceed to speak of the duties attendants have to perform. In general, one assistant is enough, two are a great abundance, and more than three persons should never be allowed to be in the room. I shall suppose that no midwife can be had at the time, or if an ignorant one, that some lady of sense enough to understand the most simple things, will stand by and direct. But admitting a midwife of great conceit, or of fancied great reputation, be present, the directions are to be attended to; and a friend of the woman in labour should stand by, and not suffer the dictates of common sense to be sacrificed to notions of dexterity and successful performance, which have slain their thousands and tens of thousands.

The first business is to sooth the woman, to compose her mind as much as possible. All other animals, and women in a state of nature, retire to some sequestered spot to bring forth. There should be but little talking, that little for amusement, consolation, and recommending patience. The largest room should be taken for the operation; the bed neither exposed to a current of air, or the heat of a fire. Free airing is very important from the beginning to the end: nothing being more prejudicial than a confined atmosphere, for mother and child.

The moment a woman conceives herself in labour, she ought to be dressed in the loosest clothes, of the kind that may be most easily removed; then to have every thing that may be wanted for herself or infant ready in the room.

Instead of the parade that is made about getting the bed ready, all that is necessary is a bed made up as others, with, on the part the patient's bottom is to rest, several separate cloths, so that the top one may be pulled away from under her, as it be-

comes dirty, leaving the next one for the upper piece: and so on till all are taken away.

The articles required in the room, after baby clothes, are cold water for drinking, and for a bath if accident occur; any weak tea, or gruel, in case of its being desired; then a clyster pipe; warm water and soap to be in constant readiness; a pair of scissors and a little cord, or tape, or any string, to tie the navel with; old cloths for wiping up whatever may be offensive to cleanliness, or to the sight.

OF TOUCHING.

The first thing required of an attendant on a woman supposed to be in labour, is to ascertain if the labour has actually commenced, an operation called TOUCHING. This is done by introducing the fore-finger up the birth-place, to feel if the mouth of the womb be opening. The fore-finger is introduced near the pubes, and then pushed backwards as a pain comes on. If the orifice of the womb appears to dilate during the pain, the woman is certainly in labour: and this is the only certain proof of its existence.

The best position for touching is when the woman is standing, leaning on the shoulder of the one feeling. It may be well done while she is lying on her side. *It should always be done with the greatest gentleness*, as from violence the bag of waters have often been bursted, to the great injury of the case. The gentle application of the finger will enable one more distinctly to distinguish the presenting part. Some midwives have been so rough in touching, as to push out the eyes, and destroy the organs of generation in the child, when such parts presented. In general, no oil or grease is necessary for the operation, (as formerly used,) since the natural secretions are unquestionably the best for lubrication. The finger being introduced, it should be held still until a pain is commencing, when the mouth of the womb will be felt opening. This dilatation of the mouth of the womb being ascertained, no more inspection should be made for some time, as frequent examinations do no good, and much irritate and inflame the parts.

When the pains have frequently recurred, always, if there has been an evacuation of the waters from the womb, the woman should be touched again; sometimes the hard head of the child may be felt, resting against the front bones: if the waters have been evacuated, the hairy scalp of the child, sometimes in parts, folded as a cord, the openings called the sutures, and the back or three-sided opening, called fontanelle, sometimes the pulsation of an artery, may be felt. In every inspection, again and again, the attendant should feel most gently.

In addition to the dilatation of the mouth of the womb, the existence of true labour may generally be predicted from the "recurrence of the pains at regular intervals, by affecting the back, and shooting around to the thighs, and by protruding the bag, as a bladder of water, through the mouth of the womb."

The actual existence of labour being established, the woman should evacuate her urine and excrement; the last will be best done by the aid of a clyster of warm water and soap. If the urine has not been evacuated for twelve hours, a catheter ought to be used for the purpose, unless sitting in a tub of warm water, or an evacuation from the bowels, produce the discharge. I repeat, have the bowels well opened with an injection, because the confined excrement obstructs the passage of the child's head, and causes the parts of the mother to be destroyed by the compression; because, unless this be done, there is an evacuation at birth, so offensive as often to interrupt the operations of the attendants; and because it proves of great service to the woman after labour. Indeed, you will save yourselves much suffering, if you will attend to the injunction of emptying your bladder and bowels on the approach of a delivery.

The directions for a woman to observe when labour has commenced, are various; but those most consistent with common sense are the best. Dr. Burns says, that, in the first stage of labour, the patient may stand, walk, or sit, or remain in bed, as she is inclined; but by no means stand as long, or walk so much, by way of forwarding the labour, as is productive of fatigue. *Women should always be impressed, that a slow labour is much less injurious than those which are quick.* When the pains become frequent and pressing, she should keep to her bed.

Before the child is delivered, there is often a strong desire to rise to go to stool, but not to be indulged, as the child might, with great danger, be born when the woman rises up. Sometimes it has been born in the pot!

Fretting should be avoided as much as possible. All voluntary attempts to press down, called bearing down, must—must be avoided, as by expediting the passage of the head before the dilatation is effected, the parts might be miserably torn.

After the head of the child descends in the birth-place, the external parts begin to obtrude, and great attention is necessary to guard against injury. An account of all ills brought on by interfering in this stage, would appear incredible. All parties seem, in this stage, to unite in doing the wrong of hurrying the birth. The woman should be confined to her bed. Her best position for all parties, is lying on her side, legs drawn near the belly, and a pillow between the thighs. Talk to her, to prevent her bearing down. Keep the hand applied between the fundament and birth-place, (part called perineum). The pains in this stage of labour, are called bearing or forcing pains; as the woman, by her exertion, bearing down, forces, most improperly, the delivery. As the head advances, push your hand with a force equal to about pushing forwards a ten-pound weight. If the head be coming too rapidly, extend your hand, so as to delay its passage, for a pain or two pains more; tell the woman not to bear down; and still, as the child's head passes, keep the hand pressing against this perineum, so as to incline the child's head forwards, towards the pubes. The head having passed, the perineum retracts; a respite is felt. The body of the child is not then to be touched: the pains of the mother will soon expel it; they alone are to do it. The hand is to be kept on the perineum, as the shoulders and hips pass, pressing as before, though with less force.

The child being thus born by the powers of the mother, it is to be left, its head free for fresh air, during its crying; it is not to be touched for some time. When the pulsation of the navel cord begins to lessen, after eight to twenty minutes, tie it within two or three inches of the child's navel, with any kind of string, moderately tight; then tie it again, two or three inches from the last knot, towards the mother, in like manner; the cord between

the knots to be cut in two with a knife or scissors; always look while doing this, lest some parts may be cut which should not be.

The child being handed over to be washed in warm water, and to be dressed in the most free, loose, easy, possible manner, the woman is to remain quiet. The after-birth, or placenta, and membranes, are to come away; and soon the womb contracts, the pains return, and the whole is expelled. If it be detained longer than thirty minutes, the belly is to be rubbed; the woman may roll over in bed to the other side; the cord may be pulled a little during a pain, with a force equal to one pound. Some robust persons have been advised with success to stand up a minute or two; these means not succeeding, a cold wet rag applied to the belly will excite the action: lastly, the finger may be pushed up the birth-place, and being turned around the sides of the womb, excites it to contraction. *Remember, the object is not to drag away the after-birth, but it is to cause the womb to contract, to expel it.*— If there be much loss of blood, cold water to the belly, by means of wet rags, and pushed a little way up the birth place, will stop it; fainting is to be encouraged, not hindered, as during fainting the bleeding is checked.

The after-birth being discharged by the contracting power of the womb, the woman is still to be kept reclining; and being wiped dry, is to be rolled over to the dry and other side of the bed; turning over is best; she may be lifted as she lies, but should not elevate herself. Any succession of cloths may be pushed under her: and between her thighs, at the birth-place, a rag is to be applied, to absorb the discharge that follows.

Thus, you must be struck with what inconsiderable offices are to be performed by midwives. A great point is, to know when not to act, which very few have learnt properly. In almost every case, in this country, excepting when a physician is wanted to prescribe for the constitution, they may be summed up as follows, and ought to be committed to memory by every female:

“To have the woman’s urine and excrement well evacuated in the beginning; to keep her composed and quiet; charging not to exert her voluntary powers, as the work is best done by the involuntary; to be careful not to burst the bag containing the waters, by fingering; not to be too constantly fingering the parts. When

nearly ready for delivery, to keep her lying on her side: knees drawn upwards, and opened by a pillow between them. As the child's head advances, and distends the parts about the fundament, to keep the palm of the hand ready to press as the head protrudes, pressing equally and gently on the perineum, so as to incline the head forwards, towards the front or pubes; and when, as the child appears to be advancing very rapidly, threatening to pass before the parts are opened, to incline the hand more forwards, so as to delay its passage for a pain or two; in this stage particularly, entreating the woman to be quiet; to let the child's body be expelled by the powers of the mother; of the cord, be sure that it is not compressed or tightened; and in ten or twenty minutes, when its pulse ceases, tie it in two places, two or three inches from the navel, then towards the mother, and cut it between the knots; to wait for the after-birth; if it do not come away in thirty or fifty minutes, to roll the woman on her belly and back again; to rub the belly with the hand, and to pull the cord with a force not exceeding one pound weight; to excite the womb to contraction; lastly, in an hour, applying for a minute, a cold, wet rag to the belly, another to the birth-place, and always doing this when there appears to be a great loss of blood. The woman to be rolled over, wiped dry, and put in her place for repose." Duties which can be done by the lowest servants, and not disgraceful, if performed by the highest, to a suffering mother.

I will now make a few questions and give their answers, the more effectually to impress on your minds the offices to be performed at labour.

Q. What is the first thing a woman in labour should attend to? *A.* The evacuation of the bladder and bowels, in order to prevent the compression and injury of these parts.

Q. What ought the attendant first to do? *A.* Introduce the finger up the birth-place, and gently, during a pain, feel the opening of the mouth of the womb, in order to pronounce certainly whether the labour exists.

Q. What will she feel on introducing her finger? *A.* Probably the bag of waters, like a bladder, which she is to touch so gently as not to endanger bursting; if the labour has not advanc-

ed, she only feels the mouth of the womb gradually dilating at each pain.

Q. When the waters are discharged, what should the attendant do? *A.* Examine or touch the woman again, so as to feel what part of the child presents at the mouth of the womb.

Q. Finding the hard bones of the head, probably the hairy scalp, folds of the scalp, and observing, probably, the pulsation of some artery of the head; what should be done? *A.* Nothing, but keep the woman in bed, her legs drawn up, a pillow between her thighs, so as to give room for the passage of the child, and to allow its head to rest on delivery.

Q. What is the difference between the pains, when the mouth of the womb and external parts are dilating? *A.* When the mouth of the womb dilates, the woman feels more excruciating pains, called *grinding, rending, and cutting* pains. When the external parts dilate, she feels *bearing, forcing* pains, as if the external parts were bursting.

Q. What are you to do, when the last pains come on? *A.* Keep the woman in bed, the right hand against the part called perineum, between the fundament and birth-place; earnestly entreat the woman not to bear down—to amuse herself with talking; lastly, as the head advances, press firmly against the perineum, so as a little to incline the child's head towards the front or pubes, in order to support this perineum.

Q. What is the difference between the perineum in this stage, and when not distended? *A.* In a common state, it is about an inch wide; at the passage of the child, it expands greatly, and becomes very thin—so thin, that by hurrying the passage of the child's head, it has been torn, leaving the lower gut and birth-place as one opening.

Q. How is this to be avoided? *A.* By not hurrying the labour; by holding the hand against it, so as to support it; by resisting, with the same hand, the passage of the child's head, for one or two pains, if it appear to be coming very fast.

Q. When the child's head is expelled, what are you to do?

A. Let the head lay supported at the side, and do nothing until the pains of the mother expel the body: during the expulsion of which, the hand is to be still kept supporting the perineum.

Q. After the expulsion of the child, what is to be done?

A. Remain quiet, after allowing fresh air for it to breathe, until the pulsation of the navel cord has lessened, and the child freely breathes. This is generally sufficient in ten minutes: and then, with any string, the cord is to be tied near the navel, within a short distance, and cut between the knots.

Q. After the separation of the child, what is next to be done?

A. Let the woman remain quiet for a few minutes; then feel her womb through her belly, to see if it is contracting, to expel the after-birth. If it do not contract, the belly is to be gently rubbed, and the navel cord a very little moved, to excite the womb to contraction.

Q. Are you in any case to pull the after-birth away by the navel cord? *A.* By no means: as the object is not to take it away; but to make the womb discharge it by its contractions.

Q. What other means are there for exciting the womb to expel the after-birth? *A.* Turning the woman over on her belly; then introducing the finger to the mouth of the womb, and turning it around its edge, to excite its action; at the same time gently extending the cord, so as to aid in producing the contraction. Strong women, who have not lost blood, may stand up, leaning the head and body over the operator. Lastly, if the after-birth do not come away in one hour, the hand may be introduced in the birth-place, and the fingers extended all around the edge of the womb, to make it contract; and then insinuated between the edges of the after-birth and womb, slowly separating them, if they adhere, as the contraction goes on.

Q. If there should be an alarming discharge of blood, how would you stop it? *A.* By applying a cold, wet rag on the belly, and pushing another a little up the birth-place.

Q. What are the evils of pulling away the after-birth?

A. The separation being made before the contraction of the blood-vessels, profuse bleeding ensues; and if the adherence be great, the womb may be torn from its connections.

Q. The after-birth being removed, what next? *A.* The woman is to be wiped dry, turned or rolled over to the other side of the bed, with a dry cloth at the birth-place; and with fresh air, without a current, is to be left to slumber quietly for a few hours.

Recapitulation of natural labour from Dr. Meriman. It is divided into four stages. First stage, the head of the child passes through the upper brim of the pelvis, and the mouth of the womb dilates the size of a crown. Second stage produces that change in the position of the head, which turns the forehead into the hollow of the back bone, (os sacrum) and brings the crown of the head to emerge under the pubes in front. Third stage produces the expulsion of the child from the external parts. And the fourth stage, the after-birth is delivered.

(Note.) The mouth of the womb opens fully, sometimes in the first stage, at others not till the second stage is over. The time at which the membranes rupture is various. The longer they remain entire, the safer in general is the labour: the most natural being when the waters are not evacuated till the head of the child is just ready to pass into the world.

BEGINNING SYMPTOMS OF LABOUR.

First: General and equal subsidence of the womb and belly; a very favourable symptom. *Second:* A discharge of a mucus fluid from the birth-place, called a *shew*, when tinged with blood. *Third:* Frequent gripes, and desire to evacuate the bowels. And *Fourth:* A frequent urgency to make water.

OCCURRENCES DURING LABOUR.

Pains, restlessness, despondency, rigors, vomitings, profuse perspiration.

Pains are *true* or *spurious*. The *spurious* are known by irregular occurrence, by affecting the belly more than the back or sides, and by not opening the mouth of the womb. *True* pains are known by recurring at regular intervals; by affecting the back, and shooting round to the thighs; by producing a perceptible opening of the mouth of the womb during each pain; and by protruding the bag of waters as a bladder, through the mouth of the womb.

True pains are of two kinds. 1st. *Grinding, rending, cutting*, as the mouth of the womb dilates. 2d. *Bearing, or forcing pains*,

after the womb has opened, and the bag of waters, or the head of the child, is forced through the mouth of the womb and the external parts of the mother.

The restlessness and despondency of women in labour, occur in the early stages, during the grinding pains, generally relieved when the bearing pains come on.

Rigors or thrillings often occur during the opening of the mouth of the womb, and when it is completed; sometimes preceding the passage of the head through the external parts; and terminate by producing violent cramp in the lower extremities. These are favourable indications of labour, different from those distinct shivering fits, the forerunners of fever, occurring in long, difficult labours.

Vomiting is also a favourable symptom in labour, at the beginning; but should create alarm, when it occurs after a long continuance of labour, the mouth of the womb opened, and pains suspended.

Perspiration is a natural consequence of labour; but artificial perspiration, brought on by heated air and bed clothes, or heated liquors, is injurious.

RULES FOR MANAGEMENT OF NATURAL LABOUR.

1. Natural labour requires but little assistance. The dilatation of the soft parts is effected by the pains, assisted by the bag of waters; of course, no attempts to dilate must be made by the attendant.

2. During the first and second stages, the patient may sit, stand, kneel, or walk about, as she pleases; repose occasionally on a bed or couch, but not too long at a time.

3. She should be supplied with mild, bland nourishment, if desired, in moderate quantities. Tea, coffee, gruel, barley-water, milk and water, lemonade, broths *not salted*, may be allowed; but beer, wine, spirits in any form, should be forbidden, as injurious in the early stages of labour; and only used in small quantities in the last stage, in cases of great exhaustion.

4. Bladder and bowels, by all means, to be emptied after introducing the finger into the birth-place.

5. *Touching* must be resorted to, in order to judge of the progress of labour; not too often repeated, and with great care not to break the membranes.

6. The spirits of the patient to be kept up by cheerful conversation; not noisy or unpleasant remarks.

7. About the end of the second stage, the patient is to lay down; legs drawn to the body; knees opened with a pillow; the attendant to be behind, ready to support the part between the fundament and birth-place, as the head and body pass; to retard it one or two pains, if too rapidly coming; and after the head passes, allow the pains to expel the body.

8. After the child breathes freely, in ten or fifteen minutes, tie the navel cord, one or two inches from the belly, another within four or five inches, and divide the middle: examining as it is done, to prevent cutting improper parts.

9. The child being born, secondary pains come on, to expel the after-birth: these, generally in less than twenty minutes, expel it in the birth-place, from whence it is extracted easily.

CAUTIONS TO ATTENDANTS.

From the history of labour, we learn that the object of the slow returning pains, is the gradual opening of the parts for the passage of the contents of the womb. To say nothing of experience, can you fail to perceive that hurrying the operation must tend to burst the parts? Indeed, for a woman to suffer a midwife, without any cause, to be thrusting her hand up her womb, tugging at the parts, exciting irregular action and irritation; for her to be prevailed on to bear down, forcing, striving to discharge the child, all show, that she no more exercises her common sense, than such officious, meddling midwives. A contrary treatment: patiently waiting for the involuntary contractions to do the business, and when appearing too rapid, to press with the hand on the distended parts, then so thin, that is, the perineum, so as to support it, (and not to tear it open with the fingers, or slip it off, as some have been known to do,) is the course pointed out by common sense. To guard against this accident, in addition to the above means, the mucus should never be removed from the parts: and when dry, they are to be well oiled.

When the perineum, or part between the birth place and fundament, has unfortunately bursted, the parts should be well washed, and freed from any thing that can keep their edges apart. A clyster should immediately be given, if the bowels have not been cleansed before delivery. The thighs should be drawn up, the knees kept close together, the parts at perfect rest; any mild ointment may be applied externally. Sometimes these lacerations have thus healed up, though often otherwise; leaving the excrement perpetually entering in the birth-place.

Pulling down the womb, and floodings in labour, are produced by as unnatural treatment, as much in violation of common sense, as the bursting of the perineum. Every woman would instantly bleed to death, if, on the separation of the after-birth from the womb, it did not contract, so as to stop up the mouths of the large vessels which carried the blood to the after-birth. I repeat, then, the great business is, not to extract the placenta, not to pull at it, (sometimes even the cord has been pulled off, in the abominable exertion,) not to force it away, as has been so generally done, but to excite the womb to contract and expel it. Common sense should teach that this pulling away, must either pull down the womb, or separate the after-birth before the womb contracts, and must produce floodings, and therefore ought not to be submitted to. The means of exciting the womb to action in common cases have been mentioned. They should be continued after a pain, the cord gently pulled (again remember, not to pull it away, but to excite the action of the womb); finally, the hand may be introduced up the womb, the fingers rubbed against the sides, around the edges of the after-birth; lastly, the careful midwife is to insinuate her finger all around its edge, slowly separating it; and with a cold, wet rag on the belly; rubbing the belly, pressing gently, and moving about the great ball or mass of the womb, its contraction will be promoted. A general rule is never to remain more than two hours without expediting the delivery by the above means. The hand going into the womb, is guided by the navel cord; when the whole is brought away, it should be so turned, or wiped around, as to take up the membranes and clots of blood, which may adhere to the sides, and produce after-pains.

Whenever there is an alarming loss of blood after delivery, cold water is to be applied; a bag of fine ice or snow has been

stuffed up the birth-place, and applied to the belly, with success. You are, unhesitatingly, in cases of danger, to pour on a pitcher of cold water, and inject cold water up the birth-place with a common syringe. It is almost needless to add, that the patient should have fresh air, no heating drinks or covering; and is to be wiped dry, and moved as little as possible. Pushing up the birth-place powdered charcoal will be found a valuable remedy, in expediting the contraction of the blood-vessels and coagulating the blood in them.

TWINS.

The directions you have now had, relate to almost ninety-nine cases in the hundred of births, according to records kept of deliveries, at various lying-in hospitals. If you attend only to this proportion of cases, you will do much good indeed. But I would wish you to do more: I would have you attend to the remaining cases; to form at least such a knowledge of each possible variation, as will enable you to understand the treatment, or to direct an attendant, in case of inability to procure a physician to consult with when wanted. But, truly, in most of these unusual cases, the powers of nature are fully equal to disburden the womb of its contents. I will not indulge the fear that you will be so fanciful as to suppose that each irregularity will happen to yourself.—Therefore, I state that sometimes more than one child is born at a birth; and that the child occasionally presents different parts of its body at the birth-place.

Dr. Merriman has summed up the useful information for the management of twins, as follows: “It is seldom (says he) possible to ascertain that there are twins, till after the birth of the first child; yet, very rarely, it is known during the first labour, by the membranes of each child being felt at the same time in the birth-place; and sometimes different parts of the two children come down together.

Each of the twins is commonly smaller than a single child, which occasions often the birth to be rapid; and gives the first idea of the twins. At other times, though it is evident the child be small, and there is room for it to pass; yet the pains, though frequent, do not propel it, as the action is impeded by the child

at the upper part of the womb. After the delivery of the first child, by feeling the belly, the existence of another child may be ascertained. If the womb feel very large, rather than leave the woman in uncertainty, it is advised to introduce the hand in it, and feel for the child. Generally in twin cases, the second child is delivered in an hour after the first, and in a position contrary to that of the first; so that if the first present head foremost, the second is a breech or feet presentment.

The first child being delivered under the management prescribed for single cases, some time ought to be allowed to recruit the woman's strength, and to give an opportunity for the second labour to come on spontaneously. There are many cases, in which it would be unadvisable to wait so long as four hours, without interference. 1st. When artificial aid was requisite for the first delivery. 2d. When the child presents unnaturally. 3d. When fits or flooding come on. In either of these cases, the labour is to be finished before four hours.

The following is an outline of the practice which I have been in the habit of adopting: 1st. When both children present naturally, and the labour of the first terminates without aid, and without much fatigue to the patient, I wait for the secondary pains; but should these not come on in a reasonable time, (four hours,) I introduce my hand, and rupture the membranes; when, commonly, the second child passes readily through the pelvis.— 2dly. If the first labour has been natural, and the second child presents in a wrong direction, I have generally deemed it expedient, with very little delay, to extract it by the feet. 3dly. If the first labour has been unnatural, with but very little delay, the membranes are to be ruptured; and whether the child should be brought down immediately, and delivered by the feet, or not, the attendants must decide. The rules applicable to cases of twins, will equally apply to cases where there are three or more children."

After the delivery of twins, greater care is necessary to prevent the mother's fainting, than in single births: she should not have her head elevated; and in moving, should be rolled over in the bed. It will be more proper to apply a bandage, in these cases, to support the belly. The rules respecting the delivery of the after-birth, are the same as in other cases.

BREECH AND OTHER PRESENTMENTS.

Cases of the child presenting with its breech foremost, are not very uncommon; occurring, perhaps, rather more frequently than twins. The signs of breech presentment are not very certain at the commencement. In general, it may be ascertained by the soft flesh, and globular shape of the presenting part, by the cleft between the buttocks, by the parts of generation, and by the evacuation of the contents of the child's bowels, called *meconium*; which last, however, takes place at other presentments.

The progress of this labour is generally, particularly in the beginning, more slow than presentments of the head. The thighs and feet of the child are drawn up close to its body; and in its passage through the pelvis, the navel cord being compressed, the death of the child is very apt to occur. Delivery in these cases is generally effected by the powers of the mother. At first, while the breech remains above, nothing but patience is necessary; when it passes out of the external parts, the perineum is to be supported with great attention, as it is more apt to burst in these cases; particularly as the heels pass, they are very apt to produce the laceration. As soon as the navel cord appears at the navel, it should be pulled down a little, to lessen the stretching. In this situation, every thing should be done to hurry the delivery, which is consistent with her safety. The compression on the cord soon causes the death of the child, which may be remarked by its convulsive, tremulous motion. The belly should be rubbed, gently pressed, to excite pains. As soon as the arms appear at their shoulder joint, the finger should be introduced over the shoulders of the child, as far as to the bend of the elbow, and then gently depressed, when the fore arm passes readily into the birth-place; the second arm will be more easily extricated. The body of the child is then to be gently extended, in the direction it appears advancing; not powerfully, as death will be produced by the destruction of the back-bone. When the neck appears, the finger may be pushed up around the mouth of the womb, and moved or rubbed a little against the edge or sides of the cavity, in order to hurry a return of pains. As soon as the mouth can be reached, a finger should be introduced in it, and the chin pull-

ed down, to expedite the birth, at the same time that air may enter its mouth. Strong women may stand up, or kneel, in these cases, to hurry the delivery.

In some cases, the child presents with its breech situated differently from the above; so that the face is towards the pubes: and as the chin may lodge against them, and retard the labour, the attendant should turn the belly of the child to the best direction. When the breech is delivered, and the toes are towards either hip of the mother, the child is in a right direction. But if the toes point to the pubes, or belly of the mother, the head will come in an unfavourable position; and therefore it will be proper, as soon as the breech is delivered sufficiently, to take hold of the thighs with the two hands, and when the next pain comes on, so to turn the body, or give it such a slight inclination, by guiding it with the hands, as will direct the face towards the mother's spine.

There is no difficulty in effecting this turn, if it be done prudently and cautiously. Much force is not required; nor is it necessary that the child's belly be turned quite round to the mother's back; an inclination towards the mother's back is all that is wanted.

In cases where the mother has a large, well-formed pelvis, the child may certainly be delivered living; but the chance is very indifferent, when the pelvis is narrow, or any thing occurs to retard delivery. I should recommend, whenever a breech presentation can be ascertained to exist, to send for some experienced hand; or, at all events, the united sound sense of the bystanders must be exerted in defending the perineum of the mother from laceration, and the child from death, by delay in the pelvis. To this I will add, that the efforts to re-animate the child, by blowing down its nostrils, rubbing its skin, bathing in hot water, should be continued two hours at least, as life has been restored in several cases of longer duration.

The next presentments of children at birth, are the knees, and the feet. Sometimes either one foot, or one knee. The knee may be ascertained by its bluntness; the foot by its thickness, the heel, the great toe, shortness of the toes, and their forming nearly an even line.

The treatment in these cases is precisely the same as that of breech presentment. If the child do not present so that its face shall be towards the back of the mother, its body is to be a little inclined towards it, as soon as the breech is delivered. The navel cord is to be guarded from extension, and the birth, after the navel passes, to be hurried as much as possible; though all these cases are to be left to nature, until the navel passes. In these cases, the greatest possible care is to be taken not to burst the bag of waters, which will hinder the dilatation, so particularly requisite in such presentments.

You have now the history of the births upon a fair average of nine hundred and ninety-nine cases in the thousand. You perceive the offices to be performed by attendants, in all these cases, amount to almost nothing; chiefly to not breaking the membranes; applying the hand to the perineum, to support it; and, in possibly one case in many hundreds, inclining the body a little around, so as to turn the face towards the back of the mother, when, as so rarely happens, the toes are towards the belly of the mother; and lastly, in hurrying the labour, when the navel is delivered, by telling the mother to bear down; by rubbing the belly, and by a gentle pulling of the body in the direction it advances.

Although I consider any further detail to you on the subject of midwifery, as unnecessary for useful purposes; yet as it may tend to gratify curiosity, and possibly be a subject of reference by some practising midwife, I proceed to state the remainder of the cases occurring.

It is probable that there is not one part of the infant's body which has not, at some time or other, presented at the mouth of the womb for delivery. The rules to be observed, in such cases, I shall continue to extract from Dr. Merriman.

The irregular presentations of the head, are when the forehead is towards the pubes, or belly of the mother: when the face presents: when the hand or arm enters the pelvis with the head.

1. The most common of the wrong head presentations, is that of the forehead to the pubes. It is seldom discovered at the first examination; the labour continuing longer than usual, the attendant makes a more accurate examination, and discovers the pre-

senting part is not so conical at the union of the pubes in front; the bones do not *ride* one over the other; the scalp does not form into a *cushion*; the hollow of the sacrum is not so filled up by the head; the front fontanelle, with its square shape, and four seams or sutures, at each corner, may be felt. Nature, in general, particularly in those of large pelvis, will deliver in this presentment; but there will be danger of laceration of the perineum, and the labour will be tedious; all will be prevented, if the attendant will apply the fingers to the side of the forehead of the child, and carefully press the fontanelle from the thigh bone, it approaches, a little around, to the side or edge of the sacrum, whereby the crown of the child's head (occiput) is brought under the pubes in front, and the delivery is safely effected by nature.

2. The presentation of the face is distinguished by the general inequality of the presenting part, by the eyes, nose, mouth, and chin; the chin, in these cases, is towards the front of the pubes. These cases are generally to be left to nature; the bones not yielding, the labour will be tedious; the children generally born alive, but the features of the face are amazingly distorted, and require several days of rest for recovery.

3. When, with the head, one arm presents, nature generally performs the work but slowly. This irregularity occurs chiefly in those of wide pelvis. If it be only the fingers or hand, coming down in a flattened shape, by the side of the head, the difficulty will not be very great; if the elbow be the part, its fore arm bent on the upper arm, the difficulty will be increased; and still more, if the hand and arm have descended before the head, the head resting upon the arm at the elbow.

Occasionally the operator may with the fingers prevent the hand or arm from descending below the brim of the pelvis, till the head progresses so low, as to be clear of the impediment; but in attempting this, if the operator bring the arm down lower, or force the head back, no good, but great danger will be done. It will be very practicable to push back the hand with a finger, without pushing back the head, or pulling out the arm. The arm, in these cases, in general is much tumefied, but in a few days recovers itself.

In these cases unusual care must be taken to keep the patient calm, free from fever, cool, not sweating under hot clothes, and

guarding against fatigue in vain attempts to force the child, before the parts are properly prepared to let it pass; opening occasionally her bowels with laxatives; and never allowing the urine to remain in the bladder; to which, in these cases, it is particularly inclined.

The next presentations are, first, those of the superior extremities; second, the back, belly, or sides; and third, the navel cord. These cases are only to be ascertained by feeling up the birth-place.

If, on examination, the mouth of the womb be dilated, and the child cannot be felt; if the waters be evacuated, and the child out of reach of the finger, the probability is increased of an unnatural case.

1. The most difficult cases are those of the superior extremities; for, whether the part be the hand, elbow, shoulders, or both hands, it is impossible for the child to be delivered without being turned, and delivered as a footling case. The established practice is for the operator to pass the hand in the womb, to take hold of a foot, both if practicable, and bring them down to the external parts, and conduct the delivery as if it had occurred naturally.

The rules, in these cases, are, first to let the bag of waters dilate the parts. As soon as the mouth of the womb is sufficiently opened, or the waters evacuated, the attendant is gradually to dilate the external parts, till they make no further resistance to the passage of the hand. Then slowly carrying his hand through the birth-place and mouth of the womb, in the absence of a pain, he must (if they have not been opened) rupture the membranes, by pressing a finger firmly against them, when the hand will come in contact with the limbs of the child; the hand is then to pass forwards till it reaches the feet, which are *to be drawn along the belly*, not over the back of the child; proceeding slowly, still in the absence of a pain, it will be found, as the feet are brought forward, the arm will be retracted; and lastly, when brought down, that the case is become as a foot or breech presentment; of which it must be particularly remembered, to turn the feet towards the sides of the mother, in order that the face may pass at her back. These are the safest cases; generally the waters are evacuated before the hand is introduced to prevent their passage; and the

womb contracts around the child, so as to make great resistance to the introduction of the hand. In such cases, and when the mouth of the womb is not dilated, the patient ought to be blooded freely, if she can bear it, to lessen the contraction; and immediately after, (the better if fainting exists,) the mouth of the womb is to be dilated, and the hand insinuated as above. Lastly, when the action of the womb is so violent as to make great resistance to the hand, it has been advised to wait, till the pain exhausts its powers. Dr. Hamilton prefers doing this, by administering eighty drops of laudanum. I would always advise free bleeding, and bathing the parts, in large quantities of sweet oil, or melted hog's lard, and to keep warm, wet cloths around the parts, to be often wrung out of warm water; if not, to bathe the whole person in warm water, sufficiently long to produce a general relaxation.

2. The next presentations are those of the back, belly, and sides. In these rare cases, the child often spontaneously turns into a breech presentment. When it does not, the introduction of the hand is necessary, to bring down the feet.

3. The presentment of the navel cord. In these cases, the cord falls down, before the child, and is compressed, so that the death of the child is generally the consequence. When the pulsation of the cord ceases, the child dies. Sometimes the cord has been slipped back out of the way of compression. If this cannot be done, and the child be living, after the part of the child is engaged in the brim of the pelvis, the labour is to be hurried, by letting the woman stand up, by rubbing the belly, and by bearing down.

In order to impress on your minds the more what has been said of labour, I recapitulate.

1. If the after-birth be not delivered in about an hour and a half, after the use of the gentle means first suggested, the hand is to be introduced into the womb; the fingers to touch and move against the sides; then the after-birth to be separated slowly, and brought away during the contraction of the womb.

2. In cases of twins, nothing extraordinary is required in common; if the second child be detained four hours, delivery to be forced as directed.

3. In breech presentments, the beginning to be left to nature: the presentment to be ascertained by the feel, the cleft between the buttocks, and the parts of generation, and discharge of contents of the bowels. When the heels pass, great care is to be taken to support the perineum; the slower the labour so far, the better; then as the body passes, pull a little the cord; moderately extend the child, not so as to destroy its back and neck; rub the belly occasionally; let the woman bear down; let her stand up, leaning forward, that an attendant may properly support the child; when the arms appear at their origin, to pull them down gently; rub the finger around the edge or the mouth of the womb, to excite it to contraction; lastly, when the child's mouth approaches, introduce the finger, and pull down a little; as soon as delivery, the woman to lie down; the child so supported as not to be injured; air to be blown in its nostrils, if not breathing; the cord to be cut; the skin to be rubbed, and every attempt made, and long continued, to reanimate the body.

The standing up of the woman, as above, will probably hurry the birth with sufficient rapidity; and I would particularly charge, that the child be so supported in its passage, as not to be endangered by the position; its weight, properly directed, must have a considerable effect in expediting the birth.

4. When the feet present, to be ascertained by the heel, the shortness of the toes, their straight edge, &c.; and when the knees present, to be ascertained by the bluntness of the angle they form; or when one foot, or one knee presents, the delivery to be effected as in breech cases, toes turned towards the thighs, on the passage of the breech.

5. When the forehead presents, ascertained by feeling the front, or square opening, or fontanelle, with its four seams or sutures, and the cavity in the back or hollow of the sacrum, to apply the fingers to the side of the forehead, and turn or incline it around from the thigh bone of the mother, towards the edge or side of her back bone, or sacrum, where it unites to the hip bones, so that the presentation becomes natural, which it often does, even without assistance.

6. When the face presents, to leave to nature, preserving the powers of the mother, without excitement or molestation, keeping her cool and comfortable as possible.

7. When the hand or arm presents with the head, to endeavour, without pushing up the head, to push back the arm, (never to pull it forwards,) and, if not successful, still leave to nature.

8. When one or two arms, the back, shoulder, belly, or breast, present, as soon as ascertained, and the membranes have opened the mouth of the womb, slowly introduce the hand, search for the feet, bring them down over the child's belly; thereby making a feet or breech presentment. When the womb contracts so violently as to make great resistance to the entrance of the hand, the woman to be blooded freely, bathed around the body with sweet oil, fomentations of warm cloths to the belly, or general warm bath, to produce relaxation. Lastly, a large dose of laudanum, not exceeding eighty drops.

9. When the navel cord presents, if early discovered, sometimes it may be so pushed back, as to lessen its compression.—The delivery to be hurried, to save the child, but not so as to lacerate the mother. The shortness of the navel cord is also sometimes an impediment to delivery: art does not here promise much; the cord has been cut, and the child died; the after-birth generally comes with the child.

You must believe that there is nothing in these uncommon cases, which a woman of good, sound sense, cool, composed, not in a hurry, could not perform. I would, in full confidence, trust to any such, especially if directed by a by-stander in what manner to proceed, and directing from established rules. Nevertheless, where no such confidence exists, I would advise an application to a physician, where there are grounds for apprehending a tedious labour.

DIFFICULT LABOUR, FROM THE MOTHER.

Having stated the difficulties of labour at births, arising from the irregular presentment of the child; I have to remark, that they are probably not more than half so numerous as those attendant upon child delivery. The capacity of the mother is as liable to variations as the presentation of the child, proceeding from her formation, and from the diseases of her womb.

The first impediment I shall mention to births, on the part of the mother, is the bad formation of the pelvis, a most rare occur-

rence, indeed, in all countries like the United States, where children are brought up without that confinement, which destroys their vigour and make. The chief defect in the formation of the pelvis, is the projection of the back bone too far forward, that is, near the front, or pubes. The extent is ascertained by introducing the finger near the pubes, and moving it back to the most projecting part of the back-bone; care being taken not to move it downwards, in the hollow of the sacrum. By this mode, it may be ascertained if the opening be three inches wide: such are the powers of the mother, that often through a lesser opening, of two and a half inches, children are born. When the presentment of the child is natural, in cases where the pelvis is found small, the rule is to let the labour progress, as long as the powers of the mother exist in good state: but if no progress be made in the labour, that is, if the child do not descend at all in the pelvis, if the labour have continued, so that the mother's strength is greatly impaired; lastly, if, after consultation with the best professional advisers, it be determined impossible to deliver the child living, the only object is the safety of the mother: the child is to be brought away by pieces.

The instrument for doing this, is called the crotchet or perforating scissors. Dr. Bard's account of using them, is annexed, as a subject of reference.

After serious consultation, the operation being determined on, the woman is to be placed on her back; the fingers of the left hand being introduced into the birth-place, and fixed on the presenting part of the child's head, (be sure the mouth of the womb is sufficiently opened,) the scissors made for the purpose, are then pushed through the palm of the hand, and between the fingers, and piercing the scalp to the skull, the bones are perforated by a boring motion, until the fingers reach the stops on their edge; (a much better plan is, when the sutures, or a fontanelle can be felt, to introduce the scissors through them, and destroy the organization of the brain;) the scissors are, when introduced, to be opened in one direction; turning them half round, (the joints guarded by the fingers of the left hand,) they are to be closed, and opened again in the opposite direction; and again turned round, so as to destroy the texture of the brain; then being closed with the same care not to entangle any of the soft parts of the mother, they may

be withdrawn. Some time is now to be allowed for the woman to rest: and for the pains, if they still continue, to produce their effect, in discharging the brain, and lessening the diameter of the head.

This being effected, we next endeavour to remove any rugged edges of bone which might injure the mother; and then passing one or two fingers within the skull, and taking hold at the edges of the perforation, we may endeavour, in that way, to assist the pains in forwarding the birth. But in a necessary and justifiable case, we shall be able to make but little progress in this way; and we shall find it necessary again to fix the fingers of the left hand over the opening in the skull, and between them to introduce the crotchet within; then fixing the point on some of the bones, with the left hand so placed within the vagina, and the fingers so spread on the child's head, as that the point of the instrument, should it slip, will rather strike the palm or fingers, than the parts of the mother; we exert as much force, gradually increasing it in extracting, as the parts will bear: and should they give way, the instrument is to be fixed again on another part, or on the outside of the head, in the eye, under the jaw, or behind the ear; and varying the direction of the extracting force, as far back as possible, from side to side, or directly forward, endeavour to bring the head through the contracted pelvis. If we again fail, both hooks may be fixed, one on each side of the head, by which as much force may be exerted, as can be necessary, or as the parts will bear: nor is it easy to conceive how much force, or how tedious and fatiguing an exertion is sometimes required. All, however, is to be done deliberately, slowly, and cautiously; resting ourselves, and allowing the patient to rest, and, from time to time, to receive some mild, cordial nourishment. Haste is seldom necessary, and although we may wish the delivery accomplished as soon as possible, we must never be hurried.

Having delivered the head, a cloth is to be wrapped round it, or a handkerchief round the neck; by which we may make use of as much force as we dare, without risking the separation of the neck from the trunk. And if even with this, we do not succeed to bring down the shoulders and breast, which in a very narrow pelvis, will sometimes be the case, we are again compelled to have recourse to the perforator, to fix it in the arm pits, or to tear

open the chest, or the abdomen, when swelled in consequence of putrefaction: which, in a child long dead, is frequently the case.

This, as well as that in which the child's head may be enlarged by disease, particularly the hydrocephalus, are cases in which the perforator may be required, even in a woman with a well-formed pelvis. The hydrocephalus may be suspected, when in the beginning of labour the child's head readily recedes from the touch, floating as it were back in the waters of the womb; or where, in a well-formed pelvis, the head remains a long time above the brim without engaging in it, notwithstanding active pains; and at the same time, we can discover the sutures and fontanelles very largely open, and the bones very easily moved on each other. Yet so much uncertainty always attends this conjecture, even in a person of considerable experience, that it becomes our duty to wait as long as the pains continue regular, and the woman's strength be not greatly impaired.

It will generally happen, that the expediency of introducing the hand, and delivering the feet, with the hope of saving the child, will occur before we have recourse to the last remedy: this will put it in our power to examine carefully the nature of the case, and to ascertain what it is which obstructs the labour. If the head be not found very large, nor the pelvis very narrow, it may be proper to proceed, and deliver the feet; but if the head be found swelled very large, the chance of saving the child will be so little, and perforating the head, in this case, so easy and safe, that it may be most justifiable. The perforation in this case, is generally all that is necessary; as soon as the waters shall be discharged, the head will collapse, and the labour may then be left to nature.

The death of the child, when that can be ascertained, removes every objection to the use of the crotchet, when otherwise necessary. But of this there is but one real evidence; that is the separation of the skin from those parts of the child which can be felt. Neither coldness of the abdomen, disappearing of the milk, cessation of motion for any length of time, nor even putrid and offensive discharges from the womb, are to be depended on. But the peeling off of the scarf-skin is unequivocal, and is sometimes attended with such a distension of the cavities from extricated air, as to render it necessary to open them before the child can be

born; and for this purpose, the scissors and crotchet are the most convenient instruments.

Another and more common cause of difficult and tedious labours with mothers, is found, not in the bones, but in the womb; it sometimes does not act; it acts irregularly; its mouth will not dilate; its mouth is also subject to displacement.

The remote cause of these irregularities is most generally an inflammatory state of the system; marked by too violent action in the beginning of labour; sometimes by a prostration of the animal powers. Relief is had by free bleeding, even when the pulse is weak, if the person be of a strong, healthy make. In these cases a physician should attend, to judge of the power of the patient, and direct when delivery is to be forced. Constant attention must be paid to emptying the bowels and bladder in all tedious cases, more particularly than in others.

One particular cause of tedious labour is, the refusal of the mouth of the womb to dilate; it remains rigid, as will appear from feeling it. The remedy most universally successful, is free bleeding, sometimes as much as forty ounces. A vomit has been often given with success. Filling up the birth-place with a large quantity of sweet oil, keeping the oil in by a plug of cork, surrounded by a rag, will be of great service. Sitting over the steam of hot water, is also beneficial. There is probably no case in which these remedies, properly applied, would not relieve.—These labours last sometimes very long; diet to be very low, and exercise taken freely, though not to fatigue.

Another direct cause of tedious labour, is the refusal of the body of the womb to contract; the pains are irregular, but there is not an equal contraction of the womb; bleeding in these cases, is proper. Professor James, of Philadelphia, says, “from the repeated trials of the effects of spurred rye, (called ergot) that, when the soft parts concerned in labour are dilated, in order to render the interior action more perfect, a dose of one scruple of this medicine, finely powdered, should be given, suspended in a little molasses and water; that the dose may be repeated in half an hour, if the interior contractions are not energetic; that he never found occasion to give a third dose.” This is a most important discovery; the medicine ought to be in every midwife’s hands. I suppose it will nearly supersede the use of the forceps, for hurrying

the birth. Nevertheless, as cases may occur in which it may not be safe to trust to this medicine, I extract the following account of the manner of using them:

The forceps are made of two blades, corresponding to two levers, of shape and make as may be seen by reference to them in physicians' hands. The one part separates from the other; and this one part, called a lever, in most cases, answers as well for hurrying the delivery, as the two united, called the forceps. The manner of using each is as follows, after giving a clyster, and being certain that there is no urine in the bladder, by introducing the catheter.

The best position for the woman to lie, is on her left side, the posteriors near the edge of the bed. The operator is to introduce the fore finger of the right hand to the child's ear; then holding the blade or lever in his left hand, he is, under his finger, which is his guide, to push it slowly over the ear, till the claw of the blade is at the edge of the birth-place. The introduction of the blade will probably renew the pains, of which advantage is to be taken, by using the blade during the pains, and desisting during their intermission. The manner of acting is to hold the left hand on the blade, close to the birth-place, and with the right hand to raise the handle of the instrument slowly, but firmly; so that while the part held down with the left hand, keeps it fixed, the other end presses the child's head downwards, in the hollow of the sacrum, and thereby ends in the expulsion; when there are no pains, we are to imitate them, by acting and resting alternately. The head soon begins to descend, and distend the perineum, which is to be supported by an assistant.

When, instead of this blade or lever, the forceps are to be used, after the introduction of the first blade above, the second is to be introduced with equal care below, precisely opposite to the first. Should the opposite ear not be felt, the direction of the blade must be by the position of the first. Both blades being most slowly introduced, the claws are to be brought together and locked, care being taken not to entangle any of the hair, or soft parts, in the lock. If, on endeavouring to lock the forceps, the handles do not come near together, or are very far apart, or are close together, the points of the blades are not properly fixed; the last one should be extracted, and more carefully fixed.

The forceps being so fixed as to enclose the head of the child, the handles being held in both hands, they are to be moved from handle to handle, or upwards and downwards, or from ear to ear; because, if moved from side to side, or face to crown, they will slip off. The most gentle force only is to be used. Dr. Meriman observes: "when acting with the forceps, the force at first used should be very moderate, but is to be increased as occasion may require;" yet if the head advances at all, however slowly, with the force first applied, it need not be increased: for, as Dr. Denman truly remarked, "a small degree of force, continued for a long time, will be equal to a greater force hastily exerted; and with infinite less detriment either to mother or child."

In concluding this short sketch of the use of instruments, so terrible to many ladies in imagination, I would remind you of the folly of such fears. What are these *mighty instruments*? a pair of scissors, to cut as they open, dignified with the name of perforator, as harmless to the mother in this operation, as proper to be used, when the child cannot be born living, or is dead.— And what are the forceps? a pair of large pincers! one blade, when used alone, dignified with the name of lever. And as to their use, a source of no pain to mother or child, requiring not more sense for fixing them over the ears of the child, so as to compress its head equally, and not injure the mother, than the application of a pair of pincers to pull out some body from a mass which a little surrounds or envelops it. Taking this fair view of the subject, I think that although not one in half a million may have to submit to the operation, all ought to view it as a simple affair, without terror.

I now come to the third cause of tedious labours. It is when the mouth of the womb is turned towards one side of the woman; or thrown backwards to the back of the pelvis, so as nearly to reach the sacrum or back-bone; or thrown forwards over the pubes; but it is very questionable if the latter ever occurs.

Laying on the opposite side will change the leaning of the mouth of the womb; but when the mouth is turned backwards, (which occurs sometimes with those of very pendulous bellies,) it is recommended to lay on the back, the hips elevated; and it may prove of service to support, or push towards the back bone or

spine, the top of the womb, it being the part nearest the stomach. The fact of this inclining backwards of the mouth of the womb, will be ascertained by introducing the finger up the birth-place, and finding the mouth of the womb not in its proper place, but pushed backwards, scarcely in reach of the finger. In these cases, the head enters the pelvis, the parts nearest the pubes being covered with the front of the womb, which has been mistaken for the child's head, without hair. The delivery requires patience, and no interference.

PRESENTATION OF AFTER-BIRTH AND CONVULSIONS.

Before concluding the subject of delivery, I will remark two cases of rare occurrence, and attended with great danger. The first is, when the after-birth adheres to the mouth of the womb; and at its dilatation, bleeds freely. By the introduction of the finger, the orifice of the womb will be felt dilating during a pain.—The practice recommended in these cases, is to introduce the hand, gradually dilating the parts, to push it through the body of the after-birth, feel for the feet of the child, and deliver with as much rapidity as in footling cases, without bursting the parts of the mother. Although I never had such a case, I would strongly recommend in preference, two doses of the ergot, the one half an hour after the other; at the same time squirting up the birth-place a strong solution of sugar of lead, the buttocks elevated, a tight plug in the birth-place, then to cover the external parts with the hand, firmly pressing, to prevent the escape of blood, until the head of the child advances. So long as the womb contracts, no blood can flow, if you will prevent its passage externally, which I am sure, by hands to relieve each other, may be done till the ergot operates. When there are no pains, then turning, and delivery by the feet, is the only resource: using all means to irritate the womb to contraction, which have been mentioned in the subject of the after-birth.

The second case is attended with convulsions. These often arise from irritating matter in the bowels. The remedy is bleeding freely: at the same time, pour down the throat either twelve or fifteen grains of calomel, or any other purgative medicine. In

addition, a solution of a spoonful of salts ought to be given; also a clyster every two hours, until the purging is free. When the stools are offensive, their irritating nature will be greatly lessened by giving the patient one or two tea spoonfuls of chalk, or half as much salt of tartar, or, what is nearly the same, a table spoonful of common ley and charcoal, every two hours, either mixed in milk or water. When the head of the child is low in the pelvis, it is advised to hurry the delivery with the forceps.—A scruple of the ergot, given and repeated in half an hour, ought first to be tried. At all events, the woman is to be speedily delivered, or in all human probability she will expire. I would not hesitate to introduce the hand, and with the finger rupture the waters; when, if the birth did not come on, I would turn the child, and deliver by the feet. The neglect of this, I well remember, was the cause of the death of a very good lady, Mrs. C——, of Washington; while, at the very same time, Doctor Warfield, of Georgetown, relieved a woman in a similar state of convulsions, by forcing delivery.

OF LESSENING THE PAINS OF LABOUR.

The first point I wish to impress on your minds, is, that labour being an operation in which the whole system is greatly concerned, the main object is to preserve the general health. I have already told you, that washing and rubbing the skin, especially in parts where there is great secretion; that a plain, simple diet, regularly taken, with exercise in open air, are indispensable requisites for health. You are already apprised, that the confined contents of the bowels generate such stimulating, offensive air, as to distend, and excite to diseased action the womb and neighbouring parts; all effectually prevented by daily evacuating the bowels at the same hour. I state it as an incontrovertible truth, that universally the woman who preserves her health by diet, exercise, and cleanliness, instead of by physic, will have infinitely the best time in child-bed.

It has been urged, that a free use of sweet oil in diet, tends to lessen the pains of labour. I have seen cases where many believed it to have this effect. Its free use in bathing the belly, and in injecting it, and retaining it up the birth-place, as labour

advances, certainly tends to lessen considerably the painful irritation and distension of the exterior parts.

But of greater efficacy, of greater certainty, I recommend the loss of blood, when labour commences. It has been recommended by the ablest physicians in this country. I have never seen a person who resorted to it, that failed having an obvious mitigation of suffering. Abundant diet, the high action of the system converting the fat into blood, give sufficient reason for its universal use, excepting in those enfeebled by disease. In addition to lessening the pains of labour, it lessens the diseases apt to follow. It is impossible to give you directions applicable to each case; but I would recommend to all who are ten hours in labour, to lose from ten to twenty-five ounces of blood, according to the vigour of the system, unless reduced by disease, as before remarked. There is nothing which will so lessen the painful contractions of the womb, and increase the dilatation of the exterior parts; or so effectually prevent their inflammation, and the subsequent diseases of the constitution, which destroy so many.

After the evacuations are made, as far as they can be borne, sometimes a good dose of laudanum, to allay irritation, has been advantageously given: but it should never be taken when the system is in an inflammatory state; and I would recommend that it should be only given from the advice of a physician, if one can be procured.

ADDRESS IV.

TO MOTHERS AND THEIR ATTENDANTS.

Management of Women after Labour: Diseases ensuing: and Diseases of Children.

MOST of your sex indulge in great apprehensions of the dangers of bringing forth; they seldom fear the hazards of the succeeding month: but I will venture to assert, that five women have died from mismanagement after delivery, for one at delivery. It is an established fact, that our systems very well endure the excesses of any one state continued: in any wet, dry, cold, or hot climate, our bodies will be in perfection; but the moment changes are made, the animal powers are affected and diseased. The delivery of the great mass contained in the womb, which for nine months it had so highly stimulated, is a change producing as great a revolution in your systems, as any to which your bodies are exposed. It is at this revolution, that diseases enter, overpower, or undermine your constitution; and that the exertion of the greatest sense is demanded for your preservation.

You have been told that your systems, during pregnancy, were in an inflammatory state, marked by quickened pulse, and the buff coat appearing in your blood when drawn. The evacuations at delivery, lessen, but do not entirely relieve it. A fever of considerable action follows; an over secretion of milk marks the excitement, necessarily increased by stimulants and confined air.

With such facts, would you believe, if you had not heard, and probably often seen, that it is customary to dose women repeatedly after delivery with spirits, wine, and spices; their heat and exhalations retained, still more stimulating their bodies; and the contamination of the air they breathe, increased by dirty clothes, bed curtains and closed doors?

I have already suggested to you the selection of the largest room in your houses for delivery. I would press that from the beginning to the end, the door should be kept a little open. The current of air should be kept off with a screen, not by bed curtains. Every thing filthy should instantly be removed from the room: *old* carpets among the number, unless effectually washed. The *cleanest* as well as largest apartment of a house, should be that used for lying-in. Frequent cleansing, and a free admission of fresh air, are to be had, without exposure to cold. True that nothing is more destructive to women than receiving colds after child-delivery; but those are ten times more subject to them, who are confined to a close air, than those who are not. I am sure, by the exercise of your own sense, you will always find means to keep your bodies comfortable, neither oppressed with clothing, or so exposed as to receive colds.

The treatment every woman requires after child-bearing, is almost precisely that directed for the small pox. By following that course, you will find benefit equal to that which was found on substituting a cooling diet and air, for the heating, stimulating practice pursued formerly, with those who had the small pox.

After a woman is wiped dry, and rolled over, or lifted up, to the other side of her bed, she should, if not disagreeable, lie on her back, with a pillow on her belly, which will produce a moderate compression on the parts. The more perfect her rest, the better: there should be as little moving as possible. The child should always be applied to the breast before ten hours elapse, after washing the nipple in warm water, to take off the bitter matter adhering. Those who have had much loss of blood at the delivery, will probably be long in having the milky action in their breasts. To such, as to all doubtful of having milk in time, I would strongly recommend the application, for

an hour or two, of a large, soft, warm poultice of bread and milk, around and over the nipple, which will foment the parts, and promote the secretion of milk, with less febrile exertion of the system.

At the beginning of the second day after delivery, every woman should have a flannel roller, or some kind of compression, applied around her belly. This is not designed to make her sides grow together! therefore it is to be moderately close, rather loose. It should be continued during her month's confinement, so that the sides of the belly being kept from distension, her belly will not be so apt to protrude or distend, after the recovery. A tight, instead of a simple supporting bandage, is injurious. On the second day, a dose of castor oil, or magnesia, or salts, ought always to be taken, if the bowels have not been opened since delivery. An injection of warm soap and water will answer. You have no idea of the degrees of disease brought on by neglecting to do this. The bowels have been in an unusual state, and their diseased action is readily excited, by the confined contents. Many of the women who have died, while lying in, have perished from neglecting to evacuate their bowels. Indeed, I know the importance of it so well, and feel such anxiety for your escape from disease, that I most earnestly entreat you, for your own and your child's sake, never to let more than twenty-four hours elapse from the hour of delivery, until your perfect recovery, without having an evacuation from your bowels, *naturally if you can*, but if not, *by the artificial means* of introducing a piece of soap in the fundament, or of an injection, or a laxative medicine. The proper place to have this evacuation is in bed, lying over a bed pan, which ought to be in every house.

The next thing I wish most earnestly to recommend, is, to wash the birth-place every day in warm soap and water after delivery, for at least one week. It may be done under the bed clothes, the bottom a little elevated. A basin pushed under the breech is all the preparation necessary. Women in confinement ought to have a syringe for injecting in the bowels, and the same will answer to squirt warm water up the birth-place. The utility of taking away the irritating secretions from the

parts after delivery, (called lochia,) is indeed truly great. The retention, inflaming the womb and bowels, has been a great cause of the fevers of lying-in women. This discharge generally lessens on the third day, when the breasts distend with milk; it varies considerably in smell, colour, and quantity. These changes in smell and colour arise chiefly from the varying putrefaction or fermentation it undergoes after it is secreted by the vessels of the womb. I mention this, to induce you to be the more particular in its removal. The quantity of the discharge differs in almost every woman. It indicates the degree of increased action in the womb; and although it is a subject of very general anxiety, it is not very material whether the quantity be great or small; provided no other disease exist, nor fevers nor too much weakness be apprehended. Whenever it is of a very offensive nature, by all means inject, with considerable force, warm soap and water up the birth-place: it will assist in the expulsion of the clots of blood that may be detained and in other respects will be of great service to the system. A common squirt, made of elder, will answer the purpose; and I beseech you to inject soap and water freely, if not daily, at least on the slightest appearance of disease. The linen should be changed every day during confinement; and dry cloths pushed underneath the breech, which can be done by a good nurse, without disturbing the patient.

Unless prevented by good reasons, every woman should be raised a little in her bed, the day after delivery, for half an hour or an hour; she may be supported with a chair and pillow at her back. A little sitting up promotes the natural evacuations from the birth-place, and should be prolonged every day,—not enough, however, to fatigue. Sometimes this is attended with fainting feeling, but it in general speedily goes off. The woman should not stand up before the fifth or sixth day; and not leave her room before the eighth or tenth, and then but at short intervals. In making these changes, a middle course is to be observed; they are to be effected gradually—never exposing to a current of air, or oppressing with too much warmth of clothing.

Dr. Moss, the judicious writer before quoted, says, the treatment of lying-in women has been, till very lately, universally founded upon the supposition that, from the moment of delivery, and for a certain time after, they could not have too frequent and plentiful supplies of warm liquids, cordials, and nourishing food, in the form of gruel, of different sorts, made with spices, with the addition of wine or spirits; and that an unusual degree of warmth and sweating were to be kept up by these means, further supported by the warmth and closeness of the room, confinement to bed, and an additional quantity of bed clothes. All this was done with a view to support and recruit the strength and spirits, and to keep off cold and its effects. However, these opinions and practices are proved by experience, not only erroneous, but, to produce the very evils they were intended to lessen and obviate.

There is, from the time of delivery, a constant, particular, and natural propensity and disposition to fever, which gradually increases the first three or four days, and is a source of great danger. Whatever will add to the heat of the body, or action of the system, will increase and prolong this fever; than which, nothing is more calculated than wine, spices, cordials, and liquids of all kinds taken hot, with unusual warmth in the room and bed. A person in the highest health, so treated, would most likely have a fever: and it is easy to conceive how much the milk fever of women, and all its consequences, are to be aggravated by such treatment.

A *coldness* and *shiverings* very commonly accompany all feverish complaints, and of course very common at this time; which may have led to the notion of the warmth, and warm things being proper, by way of preventing them, and removing them when present. But this is a false and mistaken opinion; for whatever brings on the fever, may be said to bring on the shiverings also, as the shiverings will not come on if the fever be kept off; and when the shiverings are actually present, the most heating things will not lessen or abate them, so as to do good: therefore no more than a moderate warmth should ever be employed for that purpose.

The *sweating* which is brought on by this warm treatment, has also been supposed necessary to prevent or carry off any degree of the fever, and to prevent the shiverings; but which is a notion as fallacious as the other, as it not only serves, when in excess, or long continued, to support and increase the fever, but exhausts the strength and spirits.

Those who lie-in, are sensible how liable they are to be over-heated by the most trifling additional heat of the room or bed, or by taking any thing warm, which makes them feel very uncomfortable and uneasy to themselves; often have the headache, perceive a faintness, weariness, and depression of spirits; all which continue, and are increased, according as the heat and heating things are repeated; and are the symptoms of the feverish complaint mentioned. On the contrary, they who are never exposed to be over-heated by the warmth of the bed, the room, or what they take, seldom or never experience these disagreeable sensations, but feel comfortable and easy to themselves, and find their strength and spirits increase apace; all which desirable circumstances, with many others, are entirely effected by subduing and keeping off this feverishness, by cool treatment.

You will, ladies, be well paid for imposing on yourselves these restraints after delivery. Give no attention to the stories of perfect recovery under a different treatment. I beseech you to bear in mind, that it is not so much on account of present exemption from disease, as to save your constitutions, which at some future day will suffer for your transgressions. After this operation of delivery, your systems are in their most delicate state; from the most inconsiderable causes, sensibly or insensibly, they become, or will become, most seriously affected. To conduct you with safety through these changes, far more skill is requisite than for the delivery of your offspring. Indeed, for the latter, wise nature is the actor; for the other, *management*; the directions of our confined minds are to come into operation! Do not understand me as saying that you must consider yourselves as patients, requiring doses from doctors: you only require the hourly exercise of common sense. Be quiet in mind and body: most gradually let your systems be

restored to their common state and action, by returning to your habitual diet and exercise in slow degrees; subdue all inflammation on its first approach, by abstinence, and by evacuations. These are the suggestions, not so much of medical knowledge, as of common sense. Observe them; and if in other respects you do not act in opposition to the dictates of this common sense, you will pass through child-birth with a safety greatly superior to that of the generality of your sex heretofore.

DIET AFTER DELIVERY.

The first remark I have to make, on this subject, is, that the intended kindness of women to each other in child-bed, has destroyed more than it has saved. The diet of our penitentiaries, bread and water, would prove a blessing, from the highest to the lowest of your sex, if it were strictly adhered to for the first two weeks after delivery. I could scarcely name a disease which has not been brought on, either directly or indirectly, by the cramming of strong stimulating food during confinement.

It is not my intention to recommend almost starvation, as has been done so extravagantly by some writers: but moderate diet. I would advise every woman to eat small quantities of food; bread, potatoes, rice, barley, or any common vegetable; nothing heating—no spices; from the beginning, eating precisely at the same hours that meals are taken in health. Keeping up the habitual action of the stomach, has a powerful effect in keeping off diseased action. The first day, the quantity should not be much; but after the second day, the bulk taken may be nearly as great as the person was in the habit of taking.

Not till the first week passes, would I consent that meats, butter, and very nourishing articles, as cream custards, &c. should be taken. Nor would I agree to a return to a free use of meat during the first month. The drink at this time, should be *water*, weak tea, or gruel; towards the last, very *mild* soup. A gruel made of oat-meal, is greatly esteemed by many ladies.

OF DIET AND GIVING MILK.

I have now to urge the necessity of all mothers suckling their own children, if they desire to preserve their health. It is to me a subject of astonishment, how any woman could be so lost to the feelings of nature, as to give up the pleasure of this undertaking. As they are not alive to the joy of furnishing the food from their own bodies for their babes, they ought to be solemnly warned of the effects on their own constitutions, by such neglect. Such is the wonderful nature of the system, that no one function can be suspended, without its having some influence on other parts of the body. Unless every part goes through its natural action, or irritation, some other part of the body will, even at most distant days, take on an action of disease, equal in extent, and more fatal in consequences. The womb, I believe, never properly performs its office, when not relieved by the determinations to the breasts. Nor is this the only evil; for a little while you may escape disease, but at last you will suffer greatly for not conforming to nature in suckling your children. Cancerous womb and breasts, diseases of the bones, rheumatic and other pains, will come on, as symptomatic of the action which would have attended the milky secretion. For ever bear it on your minds, that nature will not be trifled with; her laws are not to be violated with impunity; atonement she will have for all your irregularities. Your physician may postpone, but your bodies must make the payment at last, as I have before remarked.

It is a subject of considerable anxiety among mothers, what is the best food for them to take while giving suck. I am happy in being able to settle this question with perfect certainty; and I beseech you to remember it.

I have already stated, that the stomach secretes a liquid to dissolve what we eat, which becomes adapted to the nature of the food we take; a change in diet always changes this liquid, and the stomach can never be changed, without its affecting other parts of the system. The diet then for a woman, is the diet to which she has been most accustomed. If she has not

been habituated to any one, she should commence while giving milk, for at least the first three months, until the powers of the babe become equal to the change. The diet should not be so thin as is generally taken; it causes the milk to be too watery; requiring such large quantities for the child, as to derange its stomach, and incline to gluttony. This effect is pretty much as the secretion of urine on drinking freely of liquids; it contains not an eighth of the salts and other matter, which it has when secreted without such drink. The liquid does not go to the glands, but the glands sympathise with the *watery excitement* or state of the stomach, and secrete the *watery fluid*. The proper diet then for mothers, is one of solids—only a moderate quantity of liquids; never changed for the first three months; always, when to be changed, slowly done.

It is very improper for women to take large quantities of stimulating drink while giving suck. There will be an abundant secretion from the stimulus of exercise; and this is the best stimulus. It is because women giving milk are so sedentary while suckling, that there are such determinations to the breasts, which end in so many disorders of the parts. They should take more exercise, by walking, at this time, than at any other, in order to equalize the action of the blood vessels. Among the delicate I would recommend the stimulus of any pure white wine, or porter, with moderate dilution.

Some women give but small quantities of milk; in general, the difference in quantity is made up in quality. The means of increasing this secretion, are free living, great exercise, much handling, and drawing the breasts *after the child has sucked*. They should be drawn with a strong mouth, fully exerted, particularly when the action of the pulse is increased by full diet or drink. And there can be no doubt of success, especially if a large hot poultice be immediately applied for two or three hours.

When it is designed to suppress the secretion of milk, a directly different course should be pursued. Abstemious diet, avoiding salt, taking but few drinks, and a daily purge are called for. The whole breasts should be covered with a rag, wet

with a weak, cool solution of sugar of lead, to be applied every two or three hours. Sweet oil may be substituted at night.—When they become painfully distended with milk, they should always be slightly drawn, merely enough to relieve the distention.

DISEASES OF LYING-IN WOMEN.

FAINTINGS.

The first complaint after confinement, is generally a sense of faintness. As soon as observed, an examination should be made, to ascertain if there be flooding. In this case, cold applications, and cool air, are indispensable, and should be freely used; the head kept low, and the womb compressed with the hand, to make it contract. When there is no loss of blood, a glass of wine or toddy should be given with gruel. A wide bandage around the belly, drawn tolerably tight for an hour or two only, will support and compress the parts, and thereby relieve the complaint. Sometimes this arises from the falling down of the womb; which points out the propriety of feeling for the womb, in the belly. When there is great coldness of extremities, hot applications should be made to them.

CHILLS.

When the chills and coldness which women generally have after delivery, are excessive, they are to be relieved by hot bricks to the feet, wrapping the legs up in hot flannels, and hot applications to the belly, opposite the stomach. Their legs may be rubbed under the bed clothes, with a coarse brush. But it is absolutely improper to take stimulating drinks, as they actually increase the fever which ensues. Hot tea or gruel is the only drink that ought to be taken. When the shivering is very violent, it is expedient to hold the patient's limbs fixed, or grasped in the hands of assistants, until it subsides.

AFTER PAINS.

These pains are generally least distressing at the delivery of the first child, and after long, tedious labours. They arise from the contractions of the womb, to expel clots of blood, and the secretion contained in it. Sometimes the pains are almost as severe as those of labour. They are felt in the lower part of the belly, and sometimes in the back, like those of labour. They are usually accompanied with the discharge of clots of blood, and frequently are renewed for a day or two, especially when the child is applied to the breast.

When these pains are moderate, they should not be interfered with. When they are severe, they will be relieved by a bladder of hot water on the belly, or hot, wet cloths. An injection of forty or fifty drops of laudanum in the bowels, will generally afford relief: as also half the quantity swallowed. But this had better be dispensed with, as all stimulants are apt to do injury; especially the spices, drams, and wines, usually given by old women to relieve this complaint.

IRREGULARITIES OF THE LOCHIÆ.

As before remarked, the discharge following delivery is called lochiæ. Its continuance is for several days, and gradually subsides; changing in colour very frequently. When it is very offensive, powdered charcoal should be introduced, after washing with soap and water. When it is very profuse, endangering the great weakening of the patient, it will be proper to apply occasionally cloths, dipped in cold water, to the belly; to inject a little cold water into the bowels, as well as birth-place; and to give a moderate laxative, to cleanse the bowels. But when the discharge suddenly stops, a very different treatment is necessary: blood-letting may be called for; certainly a purge should be given, and warm applications made to the belly; and injections of warm water.

LOCAL INFLAMMATIONS OF THE PARTS.

When there is great soreness about the belly, acute sensibility to the touch, it is incumbent on every woman to evacuate herself freely immediately, and to foment the belly by flannels from hot water and sweet oil, until she can get a physician.— It is the bad habit of neglecting this course, which causes so many women to have the puerperal fever.

Inflammations and sometimes suppuration of the external parts of generation, are extremely apt to occur after tedious labours. From slight ruptures or lacerations, sometimes considerable quantities of blood become effused in the substance of the lips of the birth-place, presenting a very alarming appearance. But there is no danger; the blood being speedily absorbed or discharged. The application of cold water, or a solution of sugar of lead, or of sweet oil, or cold poultices, will speedily relieve the parts; or, if they are kept clean and cool, they will relieve themselves. Whenever the sides of the birth-place ulcerate, greased lint or rags should be daily applied, and stuffed between them, so as to keep their edges apart.— Women are also very subject to a bearing down of the womb, termed its *falling down*, when describing the diseases of the womb. To remain lying quietly, repeatedly in the day washing the parts, squirting water up the birth-place, fomenting with wet cloths when painful, taking nothing to stimulate the system, are the prescriptions to be attended to. Affections of the stomach, head, and bowels, often attend this complaint, and are mistaken for original affections, instead of those from sympathy. Doctor Burns says, although rash management on the part of the midwife may occasion this complaint, yet it is much oftener the fault of the patient herself: getting up too early after delivery or miscarriage. There is another affection which may be mistaken for this: it is a relaxation and protrusion of the passage to the womb; forming a soft swelling at the side; sometimes entirely encircling the opening; at others, greatest at one side; it gives no particular uneasiness, and disappears on going to bed. The cure is effected by washing it

with weak solutions of sugar of lead, of white vitriol, or of alum. The frequent application of cold water alone, often cures.

The parts about the fundament are very apt to become irritated, constituting lesser degrees of the piles. The moment pain is felt in these parts, rags, wet with a weak solution of sugar of lead, should be applied; a rag wet with cold water, will often relieve. When the irritation is considerable, sweet oil, or fresh hog's lard, on going to sleep, will be of service: you should refer to the subject of the piles. Rarely the irritation about the fundament arises from small worms in the lower gut; when injections of brine, of sugar and water, or of any irritating liquid, will destroy them.

INFLAMMATION OF THE BREAST.

The inflammation of the breasts is a source of incalculable misery to mothers, and deprivation to children. All mothers should have such affections in their view at every confinement, in order effectually to guard against them. No complaint can be more certainly prevented by proper care.

Again I tell you to bear in mind, that your systems are in an inflammatory state after delivery, for two or three weeks. It is the general fever which produces local obstructions. The means of prevention are: three hours after delivery, apply a soft, warm poultice of milk to the nipple and breasts, to favour the discharge of the first milk. Let the poultice remain from two to four hours; and, if the child do not suck, let some person suck a LITTLE milk from the breast. Let the breast be bathed with sweet oil, if possible to be had; if not, goose grease, or hog's lard. Never let the diet be *free*, until the secretion of milk be well established; and never let the breasts remain painfully distended with milk: for, in every stage of giving milk, when the breast is full, from the slightest cold and fever, inflammation is apt to ensue.

The most important means of lessening the liability of the breasts to inflammation, is never to have them too thickly covered; never fail to wash them every morning in cold water, as

regularly as the face. I dwelt sufficiently on the influence of cold water on important parts, while advising the daily sitting in a tub of cold water. The whole is applicable to the breasts: most animals have their teats exposed to cool air, and they, as the negroes, have but few afflictions of them. Begin with wiping them with a wet cloth; then lean over a basin filled with water, and let one at a time be dipped. Indeed, you will find this one of the most effectual means of preventing the inflammation of the nipple, as well as the breast. It will give a *tone*, a *hardening* to the parts, which, exclusive of the cleanliness of the habit, will be extremely advantageous. You find your hands and face improved by this cold washing, and why would you withhold it from your breasts?

The moment there is the least appearance of inflammation, apply a solution of sugar of lead, (a tea spoonful of lead to a pint of water.) Keep a rag wet with this constantly on and around it, until the inflammation disappears. If the inflammation increases, by all means apply leeches to the part, take a strong purge, and refrain from taking more than half of your ordinary diet, until the cure be complete. I have seen such excess of agony from neglecting these precautions, that I wish I could enforce the observance, by every woman with an infant at her breast. I believe that no woman will have an abscess, (called *bile*,) on her breast, who will duly attend, from the beginning, to what I have urged.

If, by these means, the inflammation be not dispersed, its extent will be greatly reduced; and this is an important point. A blister to cover the part has been strongly recommended by Dr. Physic, of Philadelphia. I have repeatedly tried it with complete success, as most physicians have done. But if the patient will not submit, it is best to apply bread and milk poultice. When the matter is fully formed, it ought, at its lower depending part, to have a small puncture, for its gradual escape, without admitting air. As soon as evacuated, a little lard may be applied to the edges, then the solution of lead is to be continued, by covering with a wet rag as at first, in order to prevent a return. Rubbing the breast with the hand is often done, but it is injurious.

The question of drawing the nipples, when the breasts are in a state of inflammation, has been differently decided by physicians, one in favour, the other opposed. The propriety, however, of the prescription, depends on the treatment of the patient. If it be determined, that the woman shall eat, and do every thing she can to increase the inflammation of the system, drawing the breast is improper, for it only brings on an additional determination to the part, tending to increase the disease. But if she refrain from inflaming her system, by exercise, diet, or drinks; if the breast be kept particularly cool, a rag wet with sugar of lead to the outside, (not on the nipple, where it may get on the child's mouth,) then moderately drawing the breasts once or twice in the day, is a most powerful remedy in relieving the inflammation, or congestion of blood in the breast.

SORE NIPPLES.

The frequency of the diseases of the nipple, unquestionably arises from the improper manner in which they are treated.—Mothers expecting their daughters to become mothers, should pay particular attention to their manner of binding their breasts. Compression continued, will cause the entire absorption even of our limbs: no wonder, then, that the tight bandages around the breast reduce its size, and destroy the nipple. No females but women have their teats compressed, or confined. The more these are left loose, the less danger of sore nipples. The danger will be lessened by washing them daily in cold water. In those cases where the nipple has sunk, or been pressed in, wearing rings of wax over it, so that the nipple may protrude or pass through, or wearing the glasses called nipple glasses, during pregnancy, to promote the lengthening of the nipple, is proper. Washing them in brandy and water, has also been recommended for hardening them.

When the nipple becomes sore, it is first necessary to guard it against the rubbing of the clothes, by wearing, during the day, a wax cup over it, made so as to receive the nipple. Those made of lead are better than of wax. Washing them with a

weak solution of sugar of lead in the beginning, is of great efficacy. Washing with a solution of alum in brandy, with spirits, borax in water, a solution of nut galls, laudanum and water, opium in water, port wine, and such articles, are to be tried occasionally, for a few days at a time. Dr. Bard says, "simply keeping a linen cloth constantly wet with rum, over the nipple, will frequently do more than either; but then it must be kept constantly wet. Sometimes precipitate ointment, on slips of rags, and applied, has done good." It has been found of service to procure the teat of a heifer. The way to prepare it, is to scoop out the inside; well steep it in cold water; then put it into spirits till an hour or two before using it: when it must be again laid in water, to take away the spirituous taste.—The teat is then to be wiped dry and sewn closely and firmly at the edge to the row of holes made in the ring or shield which is applied to the breast over the nipple. Great attention should be paid to washing it well after sucking.

The best application to the sensible sores around the nipple, is lunar caustic. The caustic is to be applied to each little ulceration, as is done for warts. Let the parts be tolerably dry, the end of the caustic merely moist, (not a drop *pending to it*,) and there will be but little pain; the cure is certain in almost every case. The milk can be drawn by the child, after covering the nipple with a rag. As soon as the scabs come off, which will be in a day or two, the child may be applied to the breast. To preserve the parts clean and cool, and to be *as little moved as possible*, are important points in the cure.

MILK FEVER.

Between the second and third days after delivery, the breasts become distended, from the milk secreted in them, and the discharges from the womb diminish. This is attended with some heat, thirst, head-ache and fever. This fever is partly owing to the disturbance, which, to a certain degree, constantly takes place in the system, whenever a new process is established; and partly to the swelling and irritation of the breasts themselves. The degree of the action will be greatly lessened by following

the advice of early applying a soft poultice to the breast, to favour the escape of the first secretion; then never failing to apply the child to the breast, within from six to twelve hours. Rubbing the breast with sweet oil, goose grease, or fresh hog's lard, will tend to prevent, as also taking some laxative, and confining to a low diet.

When the fever takes place, the treatment is very simple.— Give any warm drink, as lemonade, gruel, or weak tea; allow the free entrance of pure air; if the feet be cold in the beginning, apply hot flannels. During the whole fever, the above drinks may be taken. In general, no other prescriptions are requisite; but if the fever be high, the breasts painful, a purgative of salts should be given, a slight bleeding, then two grains of tartar emetic in half a pint of water, to be taken one-eighth every hour, till perspiration is excited. No heating articles to be used. When the fever is over, the recovery is rapid; to be promoted by sitting up, and taking the food before prescribed.

PUERPERAL FEVER.

The puerperal is commonly called the child-bed fever.— When it comes on, it is generally in the first week after delivery, about the third or fourth day. It begins with a shivering like the cold fit of an ague, and like it, is succeeded by great and burning heat of the whole body, thirst, flushing in the face, pains in the head and back, sickness at stomach, especially with great sensibility of the belly, so much sometimes, that the weight of the bed-clothes is oppressive; the belly feels full—sometimes there is great pain and a looseness. Sometimes the disease comes on without a shivering fit, beginning imperceptibly with languor, faintness, sickness, frequent vomiting, sweating, and looseness. It is distinguished from the milk fever, sometimes by the shivering, and by the breasts, which do not swell and become hard and painful as in the milk fever.

This disease may be defined a general fever, partaking of the character of the prevailing fevers of the place where it appears,

attended by inflammation of the womb, and the adjoining parts concerned during delivery. But in wards of hospitals, in confined rooms, in unhealthy spots, it often appears of a low, nervous character; and it is prevented by adhering to the directions given for the conduct of women while lying-in—most of all, by keeping the bowels open, the birth-place clean, and pure air.

During the cold stage of the fever, hot applications are to be made to the feet. When the hot stage comes on, cool drinks are proper. The patient must be blooded and freely purged with calomel, followed by a dose of salts; a solution of tartar emetic, ten grains to a pint of water, and one or two spoonfuls taken every hour or two, so as to keep up a constant sickness of stomach, will afford the best means of relieving the fever.—Antimonial wine may be substituted, or any preparation of antimony: but you may rely upon it, that keeping up the sickness just so long as the fever lasts, is the most certain method of cure; you should inject the antimony in large quantities into the bowels, if the stomach do not retain it. The belly is to be well covered with sweet oil; also, warm cloths, wrung out from hot water, are proper in allaying the irritation. As I never knew good sweet oil to be applied to or near an inflamed part, without lessening the irritation, I would not only have it applied on the belly, but injected up the bowels and birth-place, and detained there as long as possible.

When the action of the system is reduced, or when the disease assumes the low nervous character, then an opposite course is proper: wine, bark, toddy, nourishing diet, are requisite, in such portions as will keep up the action of the system. But I suppose you will be sure to have a physician to prescribe in these cases.

MILIARY FEVER.

Doctor Moss says, a miliary fever is what lying-in women are sometimes liable to; and is known and distinguished by an irruption resembling a rash, coming out commonly first upon the neck and breast, afterward upon the other parts of the body, and seldom or never upon the face; it generally appears

the thickest upon those parts which are kept the warmest and closest covered.

The eruption, upon its first coming out, is red; but towards the second or third day, it becomes white, and soon after goes off with a dry scurf. The complaint does not, however, terminate here, as it is immediately succeeded by another rash or eruption, which proceeds, and goes off, in the same manner; and that, sometimes, successively and repeatedly.

The time of its first appearing is uncertain: it seldom comes before the end of the first week; and may happen afterward at any other period of the confinement to the bed particularly.—It is attended with a sense of weakness, and a dejection and depression of spirits.

This fever, and these appearances, are entirely occasioned by much warmth, warm and heating things, and more especially by much and long continued sweating in bed, as there is every reason to suppose it never happens without, and except in consequence of much sweating. The means for preventing it, therefore, are very clear and obvious: and if the method and directions at, and from the time of delivery, and during lying-in, are properly attended to, it may always be with great certainty prevented, and never be feared or apprehended.

With respect to the treatment and cure of the miliary fever, when it does happen, it may be observed, in general terms, that the same means which will prevent it, are also the likeliest and best suited to remove and cure it. The medicines, and other medical treatment of it, cannot, with any prospect of advantage, be here given; however, the following directions may, so far, be safely observed and attended to: Every means that can heat the patient, must be cautiously avoided. The room must be made cool, by removing the fire, or setting open the door, and even a window, if needful. The bed curtains must be undrawn, and the additional quantity of bedclothes, if any there be, be removed; *all which must be done gradually*. Whatever she takes as food or drink, must be cool, and without spices, wine, or spirits of any kind. If she is costive, a stool or two, and not more, must be procured by a clyster, some laxa-

tive, infusion of senna, or castor oil: much of a looseness will be injurious.

As soon as, by these means, the heat and sweating are checked and abated, she must be raised up and supported in bed, and, with the assistance of a bed-chair, she will be able to sit up in bed: and which she may do once, twice, or oftener in the day; observing that she be not too much covered up, and muffled in the bedclothes, &c., and that she has her hands and arms out of bed, which will be a means of putting an entire stop to the sweating, and, of course, of removing the disease. She ought, as soon as she is thought able of bearing the fatigue of it, to be got out of bed once a day, which will be an effectual means of removing any remains of the complaint, and also of preventing a return of it. The notion that is commonly entertained of the propriety of keeping up a heat and sweating, by way of forcing out the rash or eruption, is very erroneous, as the heat and sweating are the sole causes of the rash, and consequently the removal of them must be the most sure means of removing the complaint: and except the sweating is checked, and even entirely stopped, (which may be done with safety, by degrees,) all other attempts to remove the disorder will be vain and fruitless. It is well known that long continued sweating will alone produce a rash at any other time, and upon any other occasion.

This complaint is justly dreaded, as it has proved fatal, in this situation, when in the extreme; although a slight attack of it may be got over without danger. It was very common, when sweating, and long confinement in bed, and heating things, were in vogue; and is much less so since the cool treatment has been introduced. Those of weak and delicate habits seem more liable to this complaint than the strong and healthy.

SWELLED LEG.

Child-bed women are liable to a very peculiar disease, of which, a swelling of the lower extremities, preceded and accompanied by great pain and difficulty in moving, are the most re-

markable symptoms; not appearing connected with any peculiarity of constitution or preceding complaint, nor the kind preceding labour, or on the treatment before or after child-birth. It occurs at any period from the first or second day, to two or three weeks after delivery; it is preceded by general uneasiness, lowness of spirits, slight pains about the womb, with a discharge from it peculiarly offensive. These symptoms seldom command much attention, until the patient is seized with pain on the inside of the limb, commonly about the calf of the leg, which soon extends from the heel to the groin, along the course of the vessels called absorbents. The limb soon after begins to swell: the soreness extends all over it, so that it cannot bear the slightest touch, and every attempt to move gives exquisite pain; the skin becomes glossy and pale, the countenance is expressive of great anguish and dejection, the pulse is quick, the heat of the skin increased, the tongue white, and the urine muddy.

These symptoms strongly mark the presence of some acrid, irritating matter; and no doubt it is in the womb. The prevention must depend on cleansing the birth-place, injecting water with such force as to enter and cleanse it: also, keeping powdered charcoal in the birth-place.

The cure of this complaint is often tedious; sometimes the other leg takes on the disease, as the first subsides. Gentle evacuations, keeping the bowels open, bathing the limb in sweet oil, and in oil and laudanum in equal parts, is always proper. Laudanum may be taken to procure rest, when the pain is violent. Dr. Hosack, of New York, and other physicians of eminence, recommend strongly taking about two grains of calomel, mixed up with the like quantity of squills, made into a pill, to be taken every night, and morning also, if there be no excessive purging. The moment this disease begins, I would recommend the immediate cleansing of the birth-place, using a strong syringe to inject up water; a table spoonful of the finest powdered charcoal, mixed up with sweet oil or yeast, should, after the washing, be also injected up, and retained for some time by a plug or the hand. This will prevent the discharge from becoming so offensive, and lessen the irritability of the part, inclining it to absorption.

MANIA OR MADNESS.

The peculiar connection between the womb and the head, was before stated; in consequence of this connection, women after delivery are very subject to head-aches and to madness. There is some difference in the treatment of this disease after child-birth. The patient under derangement does not require the evacuations used for this disease on other occasions. Moderate bleeding is proper, if the pulse be active, with purging. It is advisable to lose blood by frequent cupping: issues in the back of the neck are said to be of more use than blisters in this disease. Frequent vomits are very proper; but the greatest attention should be paid to restoring the womb to its natural action, menstruation. For this object, the purges should be of aloes: sitting in hot water; irritating, by injecting a little brandy and water up the birth-place; blisters on the thighs, or one near the fundament, will be found of powerful efficacy in restoring the menses; with all the other means mentioned while treating on that subject.

Women in this state should be treated with perfect gentleness; thwarted in nothing not injurious. Travelling, change of air, and the salt bath, will all tend to restore the intellect, as well as the body to a natural state.

DISEASES OF CHILDREN.

THE treatment of the disorders of children, ought to be understood by every mother; as well for the purpose of giving occasional relief, when a physician cannot be had, as to prevent injudicious meddling with their complaints. Improper doses, at improper times, have probably caused the death of as many children as have been relieved by medicine.

The first thing to be impressed on parents' minds, is that the bodies of their children are governed by the same laws as their own; and the cure of their disorders is to be effected, not by *doses* operating as *charms*, but by the application of the principles of medicine to their particular cases. The great variety of prescriptions for the diseases of children, in almost every woman's head, should be abandoned; but few medicines, and those of the most simple kind, are wanted for them.

In commencing the subject of the treatment of the diseases of children, you will excuse me for again repeating the means of preserving their health. To some I know it will appear very superfluous; but on others, slow to believe and hesitating to act, it cannot be too often pressed. Much of the intellectual pre-eminence, most of the good dispositions of children, as well as the vigour of their bodies, depend on exemption from disease: and hence the subject becomes more than doubly interesting. Pray, then, never permit an infant to breath a foul, corrupted air.—It is to them more poisonous than to adults.—Keep them in perfect cleanliness, by daily washing; and make them sleep on beds of finely powdered charcoal, or their secretions will putrify and irritate their bodies. Early begin to establish habits in their systems, and these will aid in repelling disease. Their constant efforts to use their limbs, point out the propriety of never incumbering them with unnecessary clothing, and of giving them exercise daily; and when in the nurse's arms frequently change the position, as their being held more on one side than another, may tend to injure the part.—Give no medicines, unless absolutely called for by disease,

and never but of the most simple kind. Let their nourishment be of the most common, the most readily obtained food, with as little mixture as possible. Regulate their sleep so that least disturbance shall be given at night. In making all changes, particularly in diet, be very gradual, especially at the time of weaning.

From the moment a child is born, its system assumes more or less an inflammatory state: its diseases are almost always those of high action; requiring slight evacuations, and nothing of a heating nature. The swelling about the head, the injuries about the face, scratches, &c. usually go off without any assistance from art. The sore left by the separation of the navel cord, requires no other treatment than that of the most simple kind. The *Hare Lip* requires the attention of a surgeon: the *Tonguetied*, as it is called, should also be referred to him.

Dr. Thomas says, that the symptoms of the first diseases of infants, (by which we judge of their nature,) are, chiefly, sour belchings, sickness, vomiting, purging, inquietude, crying, wakefulness, heaviness, loathing of food, contractions and sharpness of the features, blueness about the mouth, turning up of the eyes, sudden startings from sleep, thirst, heat, the manner of breathing and of crying, drawing up of the lower extremities, hardness and distension of the belly, eruptions on the skin, and in the mouth, and relaxation or contraction of the skin, &c.

SUSPENSION OF LIFE.

Children are sometimes born apparently dead, particularly in slow labours, and when the navel cord is compressed. In such cases, after cleansing and wrapping it in warm flannel, you should stimulate its temples and nostrils with spirit of harts-horne, and rub its head and breast with ardent spirit. If these means fail to excite the languid circulation, you should endeavour to inflate the lungs by blowing through its nose, while you hold its mouth, unless a pipe or catheter can be procured to blow in its mouth. The application of a little cold water to the child's chest, should also be tried.

When any portion of matter appears to obstruct the child's mouth or nose, you should endeavour to extract it, and wash the mouth. Sometimes it has been found of importance to untie the navel cord, and suffer the loss of a little blood. At all events, you should never fail, not only to try all the means mentioned, with gently rubbing the body, but they are to be continued two or four hours, as even after that time, life has in such cases been restored.

THE BLACK OR LIVID COLOUR OF INFANTS.

It sometimes happens that immediately after birth, the face and neck of the infant put on a livid or black appearance: the lips become purple, and the breathing short; which symptoms generally soon go off, or terminate in death. This is attributed to some defect in the formation of the heart or lungs.

Dr. Hosack recommends a stimulating bath made of four ounces of powdered Peruvian bark, (oak bark will answer as well,) to be boiled for a few minutes in about two gallons of water; to this he then added a pint of Jamaica spirit. When it was cooled to a degree rather above that of the body, the child was immersed in it up to its neck; and, to render it more stimulating, a small quantity of spirit of hartshorne, or ammonia, was added from time to time. The child, on shewing symptoms of recovery, is to be removed, and wrapped up in warm, dry flannels; but if the fit recurs, the bath is to be again applied.

OF COLDS AND SNUFFLES.

In the first month, most children are affected with colds; commonly in the nose, and called snuffles. Warming the feet at the fire, will often be sufficient to cure them. But when the disease is attended with fever, it is best to administer a vomit. This may be of three grains of ipecacuanhæ, or of one grain of tartar emetic, in four table spoonfuls of warm water, and one tea spoonful to be given every twenty minutes, until vomiting

is produced. The bowels should be kept open with magnesia, rhubarb, manna, or castor oil, in small doses. I would recommend a repetition of the vomit, if the first do not relieve.

ERUPTIONS OF THE SKIN.

Children, particularly those not daily put in a tub of warm water, are very subject to a great variety of eruptions on their skin, commencing sometimes in the first week of their birth. Different names, as red gum and white gum, are given to each kind; but it is useless, as they vary much, and require nearly the same treatment. In the red gum, there is a number of small elevated red spots, scattered over the trunk of the body, and sometimes on the cheek or forehead; on the feet the spots are still larger, and contain occasionally a clear fluid. In some stages it resembles the measles. Generally no medicine is requisite; but if it suddenly disappears, and the child shows symptoms of internal disease, an emetic or purgative ought to be given, and repeated, if not at first relieved. The white gum appears after the red gum, resembling the itch, with white, shining little blisters, containing a little clear fluid. There are other varieties of these eruptions of the skin, but few of them require medical treatment. A vomit or purge, to clear the bowels, generally relieves. The prevention is in great cleanliness, free washing daily in soap and water, with regularity in nursing. When these affections of the skin are attended with fever, they require treatment, such as for common fevers, with applications to the parts inflamed, to lessen the action; cold lead water and sweet oil, are the best for this purpose.

SORE EYES.

Children are very subject, sometimes during the first month, to inflammations of their eyelids and eyes, particularly those whose parents neglect the great preventive of their complaints, setting them every morning in a tub of warm water. At whatever time the inflammation comes on, in slight cases, cold water alone; after a few days, a very weak solution of sugar of lead,

fifteen grains to the pint of water, should be applied every two hours to the part. If it do not speedily subside, a purge of oil should be given, to relieve the inflammatory state of their bodies. The inflamed eye should never be turned towards the fire, and the hand of the infant so confined, as to prevent rubbing the part. In cases where the inflammation of the ball of the eye is great, a leech should be applied to the eyelid: also, cupping about the temples; and if the child be a few months old, bleeding four or five ounces may be necessary to save the sight of the eye.

This cold and lead water alone is the proper application to the eye, and nothing should be added excepting where the eyelids adhere together. In this case, the mildest sweet oil, mild hog's lard, or any bland grease, should be applied to the edges. A want of the knowledge to cool, and evacuate at once, and effectually, the children, and avoid every stimulating application, in inflammations of their eyes, has been the cause of the frequent loss of their vision. I trust, that no parent, hereafter, will suffer any other application to their children's eyes, unless from the recommendation of some eminent physician.

SWELLINGS, EXCORIATIONS.

For any swelling of an inflammatory appearance, marked by red colour, heat, and pain; the part should be bathed in a solution of lead, of thirty grains to the pint of water, and a rag wet with it be constantly applied. When the inflammation is considerable, purging is proper; also bleeding near the part, by cupping or leeches. When the skin is rubbed off, (termed excoriation,) as is often the case, between the legs, behind the ears, in the hair, between the toes or fingers; this lead water should be applied, and sweet oil. In cases of inflammation, a poultice of Indian corn meal, wet with this lead water, and kept applied to the part, will expedite the cure. When sores have been of long standing, you should, by all means, on drying them up, purge the child once a week, for three or four weeks afterwards; also, diminish its food. The neglect to do this, or to make a slight issue or sore, by means of a small blister plas-

ter, applied and kept to some part of the body, two or three hours every day, for a week or two, has often been fatal; as the system, when the old sores are healed, not having its accustomed irritation, takes on violent disease in other parts.

WIND UPON THE STOMACH AND BOWELS.

A child is discovered to have wind upon its stomach, by the wind often rising in its throat, which makes it struggle at times, as if to get its breath, and from which it is occasionally relieved by the breaking of wind upwards. When it often recurs, it is teasing, and interrupts rest. It is most common with children dry-nursed.

A variety of articles have been given to dispel the wind; but none of them are to be compared to spirit of hartshorn: three drops in half a table spoonful of cold water, and repeated two or three times in the day, or as there may be occasion. Hartshorn, when it will answer the purpose, is to be preferred to cordials, spirits, seeds, spices, and hot things of any kind; as, although it is fully as powerful in dispelling the wind as any of them, it will not, by a permanent heat, nor by repetition, injure the stomach as they do; nor can any bad habit or other disadvantage arise from giving and repeating it as often and long as it may be necessary so to do. It is endowed with a property which makes it a desirable medicine for children; which is, it corrects and removes acidity or sourness, a principal cause of griping with children. Its use in these intentions is well known by grown up persons, with whom it is a favourite and familiar medicine: and the reason why it is not extended more generally to children, proceeds, I imagine, from a supposition that it is too strong for them; but which is a mistaken notion; as it may be given, as above directed, with the utmost ease and safety. The dose here mentioned is the smallest that need ever be given, and it may be increased, as a child grows older, five or six drops.

As wind upon the stomach is, with a child as well as a grown person, to be considered as a mark and indication of a weak stomach and indigestion; so it will be observed to be

most common and troublesome to those children who are dry-nursed, and fed with food of an improper quality, as bread, thick and rice milk, &c., which cannot digest and pass the stomach so perfectly and readily as it ought to do: for we all know, that whatever is heavy of digestion, and lays long upon the stomach, is not only uneasy, but also causes wind there; and cannot but be sensible how much these painful sensations would be increased, if we were compelled, as infants are, to a constant repetition of the food which occasioned them. Many weakly, puny children, who are even wet-nursed, will now and then be observed to have wind upon their stomachs; (and the *hickup*, which they all have at times, is occasioned by it); as also those who are most carefully fed in dry-nursing; but when it occurs only now and then, and that slightly, it is not worth notice; and if any attack of it should seem more severe than usual, the hartshorn and water will most likely relieve it. The occasions which call for a more particular attention, are those where the child is dry-nursed, takes food unwillingly, and swallows with difficulty, from the wind rising into its throat, and that for some successive days. Whenever, therefore, the complaint appears in this latter form, it will be necessary to pay the strictest attention to the food, and by no means to force more, even of such as is the most suitable, than it is disposed to take willingly. If it be costive, it will be proper to give a little manna, or a tea spoonful of castor or olive oil.

Children, like grown up persons, seldom have wind in their bowels without being griped by it; but which they will sometimes have, without being either costive or too loose in their bowels. When it so happens, it most commonly proceeds from cold, and will generally go off in a short time. The hartshorn may in this case be tried, although its effects will not always be so striking as when the wind is in the stomach; and if it does not answer, recourse may be had to a little geneva and water, or anise, or fennel-seed tea, &c. If these fail, and the complaint increases, it must be treated as a griping without looseness.

Some children seem naturally more subject to wind in their bowels than others; and which can be accounted for no other-

wise, than as proceeding from a particularly weak and tender state of those parts. And as it is much increased by cold, a particular attention must be paid to keep and defend those children who are liable to it, from taking cold, by a proper regard to the closeness and warmth of their dress, and by keeping them out of the air in the first or second month.

A SICKNESS, WITH OR WITHOUT THROWING UP.

Infants are very subject to a sickness the first or second week. Sometimes they throw up with it; and at other times they do not, but lie in a dozing state, without motion, the lips pale, and a paleness and sinking of the face; and they generally refuse their food, or do not take it so freely as at other times, seemingly owing to their being stuffed and full at the stomach, and not able to get it down. The stomach commonly feels hard, and is sensibly swelled and enlarged.

A throwing up, or possetting, as it is commonly termed, is seldom esteemed an unfavourable circumstance with young children: yet the sickness that happens at this early period, is generally from a widely different cause with the possetting, which rarely happens so early; and when it does, proceeds from a natural and not unfavourable cause; whereas the sickness that comes on at this time, is not desirable. In possetting, what comes up, is in a digested state; whereas what comes up at this period, and upon this occasion, is scarcely changed or altered from what it was when it went down: and if altered, appears in hard curdled lumps. From which, it clearly appears, that the cause of this sickness, is the food taken, which disagrees, and therefore will not digest and pass the stomach as it ought to do, but remains unaltered till nature relieves herself by a sickness, or looseness; but until this takes place, and while the food stays upon the stomach, it lies there as an oppressive load, which accounts for the child's looking so pale, and otherwise ill. This sickness at stomach, without throwing up, is a very common cause of alarm and much uneasiness and anxiety to the mother and friends, who suppose the child, from the apparently great and oftentimes sudden alteration in its look, must

be in a dangerous situation; although, notwithstanding the alarming appearances, it is very rarely attended with immediate danger; and, when the cause is known, may be readily removed and a return of it prevented. The means to be pursued for these purposes are, first, to remove the load from the child's stomach, which will give immediate relief, as will be perceived by its resuming its former look; and this will often be done, by giving it a tea spoonful of castor oil, or a little manna, so as to obtain a free passage, which may carry the complaint off by stool; but if this should fail, an antimonial puke will scarcely fail of fulfilling the intended purpose. To prevent a return, the child's food must be strictly attended to; and if (as is generally the case) it happens before the child gets the breast, it had better not be fed again until it can have the breast: but if food or nourishment be absolutely and immediately necessary, it must be given of such kind as may be reasonably expected to agree better, and such as has been advised when treating of food and diet.

This complaint is a common attendant, or rather forerunner of gripes and looseness. It is more rare and less frequent with those who are not fed before they get the breast; and when they come to have the breast plentifully, and take it freely, they seldom have any returns of it. It is not, as before observed, immediately dangerous; yet if it be neglected, by suffering the cause of it to be repeated and continued, it may lead to severe gripings and looseness, that may, and often do, prove fatal.

The sickness and oppression at the stomach, will always occur in a greater or less degree when a child gets, the day it is born, the breast of a nurse instead of that of its mother. This strongly points out the impropriety of interrupting the order of nature in her own invariable operations. Man has a disadvantage with the rest of the animal creation, in this and some other of the simple operations of nature, which seldom errs, except when interrupted by the art of man. It seems highly probable, that could those children who are intended to be brought up by hand, be indulged with a breast for three, two, or *even one* month, from their birth, their stomachs and bowels would, in

that time, acquire so much strength as to prevent the complaints, either altogether, or in a great measure.

THRUSH, OR SORE MOUTH.

This is a complaint to which children are subject. It is commonly called *a sore mouth*, which it really proves to be to the poor infant, as it is mostly attended with a good deal of pain and uneasiness, especially in feeding—in sucking, most particularly. The appearance in the mouth is as if the child had been eating curds, and that some of them remained sticking upon the tongue, to which the complaint and soreness are at first chiefly confined; but afterwards it will spread over the inside of the mouth, and be extended to the throat, stomach, and bowels. Whenever any white specks, or matter like curds, are observed to be sticking upon the tongue, so fast as not to be readily washed or rubbed off, it may justly be supposed the sore mouth is commencing.

If the child at this time is in the least disposed to be costive, a little manna, oil, or magnesia, must be given, to procure one or two loose stools; and which may be repeated afterwards, if the body does not keep open. It will be necessary to have the tongue frequently cleaned; for which purpose many things are recommended, as honey, borax, alum, white vitriol, &c. Borax is to be preferred to any thing else, as it is very effectual and much safer than the others. It must be powdered, with or without an equal quantity of loaf sugar; and is to be made use of by tying a piece of linen rag upon the mouth or shank of a tea spoon, which must be dipped in the powder, and the tongue rubbed with it two or three times a day; and it must be regularly persevered in daily, while any appearance of the complaint remains; although, in doing it, the child will receive some pain, especially if the complaint had been suffered to increase before proper attempts were made to remove it; but when taken at the beginning, the mouth will be kept tolerably clear and free, without paining the child; and it will be enabled to feed with much more ease, and the complaint will be got rid of in the course of seven or eight days. The colour of the

specks upon the tongue are, as has been observed, at first white; yet it is common for them, when the complaint is of some standing, to turn yellowish and brown; upon which occasions they generally come off at last, in sloughs.

When from neglect, or any other cause, the complaint has continued for some time, it is very common for the child to have a degree of fever, very often accompanied with griping and looseness, with watery, sour, green stools; in which case the disorder becomes more alarming and troublesome.

This complaint is occasioned by an imperfect or improper digestion of the child's food; and therefore it will be very necessary to pay a strict attention to the diet at this time, if the child be dry-nursed; to the mother's or nurse's diet, if otherwise.

When the looseness is great, the complaint must be treated as from any other cause. Of all medicines, the antimonial puke is most eminently serviceable in this state of the complaint, and is often attended with the happiest effects, and therefore ought not to be omitted: it may be given once a day, while the complaint continues; as it commonly operates both upward and downward, it removes the offending matter from the stomach and bowels, which is the cause of the complaint, and also of the fever; by which means the most sensible relief is obtained.

When the thrush is neglected, and suffered to continue until it is communicated to the bowels, (as it begins first in the mouth, and is extended gradually and regularly downward,) the stools will frequently be so irritating as to inflame the child's backside, and make it sore. When this happens, the parts red and sore must be kept as clean as possible, and often washed with cold water. And, if the soreness increases, it will be proper to bathe them with lead water and oil.

The thrush may be communicated to a child by a nipple that has been in the mouth of another child who has the complaint.

The cause of this complaint has not been yet generally agreed on. During many years particular attention to it, I have scarce ever seen a case, when a child was dry-nursed, without more or less of the complaint, but most commonly with

little severity, where means were made use of to remove it.— On the contrary, I have never observed the least appearance of it where the child had no other food from his birth but the breast. I have frequently observed it when a child has been fed with improper food, till the breast was ready for him; and much seldomer when he has been so fed with more proper food: from which I have long concluded that the cause is *improper food*; and that the complaint may be ranked with many other injurious consequences (already named) from the same baneful cause.

YELLOWNESS OF THE SKIN.

A yellowness of the skin, which very often overspreads the whole body, is common with infants a few days after they are born; it sometimes continues for some weeks, during which time it often becomes of a deeper yellow, or orange colour. It is not to be regarded, nor is any thing needful to be done to remove it, as it will disappear totally and spontaneously at last. It is commonly said that the skin is left clearer and fairer by it than it otherwise would be without it; which seems a doubt; however, it is an agreeable delusion, and may help to reconcile so unpleasing an appearance. Sometimes a slight laxative or vomit will be requisite.

MILK IN THE CHILD'S BREAST.

Some children will have milk in their breasts a few days after birth, and which is commonly pressed out by the fingers of the nurse. If the breasts be much swelled and inflamed, this pressure, if forcible, will give considerable pain, and may be attended with worse consequences, and more uneasiness to the child, than can happen if nothing be done: and if the swelling be trifling, forcing out the milk is less necessary. In all cases, pressing it out is better avoided; and any swelling and hardness that may happen, will be better relieved by a little olive or goose oil, rubbed gently on once or twice a day; the milk being left to disperse or discharge itself naturally—the latter of which

often happens, with the most trifling assistance; and whenever assistance by pressure is given, it should always be of the most gentle kind.

LOOSENESS OF THE BOWELS.

This is generally brought on by too much, or unsuitable food; in which case great attention should be paid to the regulation and selection of the diet. In other cases, it may arise from disease in the bowels, which will require an emetic; and the bowels are to be cleansed by a purge of a little rhubarb and magnesia; to be followed by small doses of chalk in some mucilage, as milk—made more palatable by a drop or two of the oil of peppermint, cinnamon or aniseed. If the stools continue more frequent than they ought to be; and are either slimy or tinged with blood, the purge should be repeated: warm applications are to be made to the belly, the skin gently rubbed; and the diet should be of mucilaginous articles and jelly. Sometimes the application of a small blister to the pit of the stomach is of great service. In cases where the strength is fast sinking, glysters of a little opium and starch should be given; and laudanum may be rubbed on the belly, with sweet oil.

FALLING OF THE FUNDAMENT.

The end bowel of children of lax habits, is very apt to protrude after a stool. It is a source sometimes of great pain, and often of great uneasiness. In general it may be replaced by the application of a rag wet with cold water, using very moderate compression. More obstinate cases require that the child should be laid on its belly: the sides of the buttocks moderately dilated; and then the fingers of the hand are to be applied, so as equally to cover the protruded part; then gradually and firmly, in one continued pressure, the part may be caused to draw up. In some cases, it has been found expedient to introduce some gut, distended with air, and when it carries up the fallen bowel, on letting out the air, it retracts, and may be withdrawn. Whenever the bowel protruded is inflamed or

painful, it should be bathed in cool water, or lead water, or olive oil, or hog's lard. Sometimes fomentations of mild articles, as flax-seed poultice, hot water, &c. are of service.

Those children much subject to this complaint, should never be allowed to strain in evacuating the bowels. The discharge had best be made in an erect posture. The strength of the bowel may be restored by injections of decoctions of oak bark, or nut galls: when the irritation is great, a little laudanum will lessen it. Pouring cold water occasionally on the buttocks, and always after a discharge washing in cold water, will be found serviceable.

OF CHOLIC.

Some children are very subject to cholic, which is easily discovered by sudden fits of crying or screaming, which nothing can appease; the child bends back the body, spurs with the feet, and then has an abatement of the pain for a few minutes, obtained sometimes by the discharge of wind. An attack may consist of one uninterrupted fit, or of repeated screaming, with intervening moments of ease. It may be induced by costiveness, by cold, by damp clothes, by the liberal use of panado, particularly if made of sour bread; by passion, or some state of the nurse affecting the milk, by collection of wind in the bowels; or it may accompany thin and slimy purging, which is sometimes produced by the injudicious use of laxatives.

In ordinary cases, nurses give gin and water, which is a most injurious practice, and may in some instances kill the child. Laudanum gives speedy relief, but it weakens the stomach and nervous system, and produces costiveness. A few drops of tincture of asafœtida, mixed with oil of anise, is generally effectual, and is always safe.* The warm bath is useful, and if these means do not give relief, rubbing the belly with lauda-

* "Two drachms of tincture of asafœtida, twenty drops of oil of anise, and an ounce of mucilage of gum arabic, may be rubbed up together: and of this mixture, from ten to twenty drops, in a little water, will be a proper dose."

num will be safer than giving it internally. A clyster of gruel and a little oil, is proper, and particularly cloths dipped in hot water and applied to the belly; and if the child has been costive, it will be right to give a tea spoonful of castor oil, after these remedies have relieved, in order to prevent a return.

When children are subject to cholic, we may suspect that there is something wrong in the diet. Common panado, especially if it contain much sugar, is very apt to have this effect. The nurse's milk may also be flatulent, and this bad property is sometimes increased by the use of porter or ale, intended to increase the quantity. The state of the child's bowels must be attended to, and it should not be allowed to load the stomach, by taking too much at a time. If it discharge wind upwards after sucking, it should be gently dandled, as that promotes expulsion. I am no advocate for giving much medicine to children: but when these means do not succeed, it is proper to give occasionally a few drops of the mixture mentioned in the note. The fundament should be kept open, by introducing a covered quill, as before suggested.

In the more violent and dangerous kind of cholic, the belly is tumid and painful to the touch, to a greater degree than in the former species; the child is hot, the pulse quick, the face flushed, the pain and screaming violent, and sometimes there is great straining, and nothing passes but bloody slime. As this may proceed from inflammation or obstruction in the bowels, means should be taken to procure a stool by a clyster and the use of castor oil or calomel, at the same time that the child is put into the warm bath and rubbed with laudanum. If the bowels be open, a clyster containing a little laudanum, can seldom be improper, if medical aid cannot be early obtained.—Also, try the antimonial puke.

OF CONVULSIONS.

Convulsions take place at any age, and may occur either in the course of some other disease, under which the child has been labouring for some time, or suddenly, in a state of previous health. In the one case, they are highly dangerous, and

often indicate a fatal issue; in the other, they are frequently attended with little hazard. Convulsions vary in degree, from a slight movement of the muscles of the face, to a rigid, or convulsed state of almost the whole body. In general, whatever be the degree of the movement, the countenance is altered, both in colour and expression: the patient is insensible, and cannot follow an object with the eye. In some instances, the motion is so slight, that the child may rather be said to be in a state of fainting, or stupor, than of convulsion. In very young infants, there is sometimes only a smile about the mouth; the eye, which is half closed, turns slowly round, the breathing seems occasionally to flutter, and the child starts, and throws out the arms on the least noise. These motions, called inward fits, frequently proceed from wind in the bowels.

Convulsions vary in point of duration, as well as of violence. They sometimes go off in a few seconds; in other instances, they continue for several minutes. The child may have only one short attack, and become well immediately afterwards, or it may remain in a languid, sleepy state; or it may have repeated attacks in a very short time, and continue insensible during the whole of the intervening period. Convulsions may be produced by wind, or irritation in the bowels, dependent on worms, costiveness, indigestible food, acrid stools, &c.; or by teething; or by breathing bad or confined air; or by the striking in of some eruption; or during the coming out of others, such as small-pox; or by affections of the brain itself; or by other spasmodic diseases, such as hooping-cough, &c. It will be useful to observe,

First: That when the child has been ill for some time before convulsions come on, especially if the pulse has been quick, the skin warm, and the head affected, whilst these symptoms could not be traced to the effect of teething, there is ground to believe, that the convulsions proceed from a diseased state of the brain. It is to be hoped, that every attentive parent will, from the previous symptoms, have been led to procure for her child professional advice, before this period of the disease.

Second: In the case of very young infants, if there have been no preceding disease, there is great reason to attribute the con-

vulsion to the state of the bowels: and we shall be confirmed in our opinion, by finding that the stools are not of a good appearance; that there is much wind in the bowels; that the child has not been nursed or fed properly; that the nurse has been agitated by passion, or committed some irregularity in diet; or lastly, in infants a few days old, that the meconium is not expelled.

Third: When young infants have convulsions from the state of the bowels, we generally find that the face is pale and the motions slight; but if they proceed from the state of the brain, which is still more alarming, the motions are stronger, and more deserving of the name of convulsion.

Fourth: At this early period, children, from an irritated state of the navel, when the cord drops off, and also from affections of the nervous system, may have locked jaw, and the spine stiffly bent back by a convulsion.

Fifth: After the child is two months old, irritation of the bowels, proceeding from bad stools, worms, or indigestible food, does not produce those gentle motions, or that apparently languid state, observable at an earlier period, but generally excites pretty strong and well marked convulsions; and therefore, after this time, the distinction mentioned in the third observation will not hold good.

Sixth: At the period when children are teething, convulsions may be produced by irritation of the gums, more likely than by other causes; and, therefore, we should in every case which occurs at that time, examine carefully the state of the gums, and cut them if there be the slightest swelling or sign of teething.

When a child is seized with convulsions, a great consternation immediately prevails, and without some determinate rules, either nothing will be done, or very contradictory plans may be adopted.

The first general rule in such cases, is to order the warm bath, which is proper in every instance. When the motion is strong, it always allays it; when it is slight, it brings on a quiet state of repose. The water should be agreeably warm to the hand, and the child be kept in it up to the neck for some mi-

nutes, should it not get relief sooner. If it be very pale or languid, the addition of a table spoonful of mustard, spirit, or hartshorn, to the bath is useful.

Second: Whilst the child is in the bath, a common injection is to be prepared, and administered immediately after it comes out; and afterwards a dose of calomel, proportioned to its age, is to be given.

Third: If the child seems to be sick, or oppressed in its breathing, or about the stomach, or has been known to have had something which has disordered the stomach, vomiting should be excited, by tickling the throat with a feather, during the fit, or by giving ipecacuanhæ, as soon as the child can swallow.

Fourth: After taking the child out of the bath, it will be useful to rub it, particularly over the spine and the stomach, with oil of amber, or with spirits, having about a sixth part of hartshorn added. If any rash has struck in, rubbing the surface with camphorated spirit or oil of turpentine, or applying a small warm plaster over the stomach, will be useful.

Fifth: If the face be flushed, or the head be large, or the child remain insensible or stupid, it should, according to the age of the child, be bled at the temples. The head ought also to be shaved, and covered with a blister. At the same time, it will be proper to give such doses of calomel, as will keep the bowels very open. This is more especially necessary, if the stools be fœtid, or of an unnatural appearance. If the child remain languid or insensible, it will be beneficial to rub the surface frequently with oil of amber, strong spirits, or camphorated oil of turpentine. When there appears to be much irritation, rubbing the back-bone with laudanum is proper, but no opium should in general be given internally.

When there is a tendency to frequent returns, it will be proper, besides keeping the bowels correct, by means of calomel or rhubarb and magnesia, to give repeatedly a few drops of tincture of asafœtida, mixed with oil of anise. In all cases, the strength is to be supported by suitable nourishment, even by clysters of beef tea.

Sixth: The directions given, are particularly applicable to the convulsions of children above a week or two old. I may add, that although the same remarks may often apply to those who are younger, in general, the convulsions or inward fits of infants a day or two old, require chiefly gentle laxatives, such as magnesia and rhubarb, and sedulous attention to nourishment, with gentle friction over the surface, especially of the belly, with camphorated spirit.

Seventh: When fits are apprehended in dentition, from starting, feverishness, and other circumstances, ascertained by former experience to have preceded convulsions, the gums should be cut, and a gentle emetic exhibited. Laxatives and the warm bath are also useful, and these means generally prevent the fit.

FEVER OF CHILDREN.

Fever, proceeding from different causes, is a frequent disease of children. It is either produced speedily, after eating some improper and indigestible food, or the foundation is laid more slowly, by a previous state of costiveness, or disordered condition of the bowels. In the first case, it sometimes attacks very suddenly, after eating unripe fruit, or garden trash, or almonds, or pastry, and particularly that kind of cake, called short-bread. In other instances, the symptoms do not come on for a day or two. The fever generally begins in the afternoon; the child is not disposed to eat, is peevish, the hands are warm, and the pulse is quick; it complains when touched, although not hurt, and can hardly tell why. In the evening it becomes sick, or vomits, is very hot, restless, and thirsty, but generally the tongue is clean. Through the night, it is much disturbed.—Next day the tongue is furred or white, but the child is rather better and livelier in the morning. In the afternoon, however, the symptoms increase, and the disease goes on as the variety which I shall next describe. In some instances, the disorder attacks more speedily. The child, perhaps, when going out complains a little of the head, becomes worse when walking, and returns with a pain in the forehead, is pale, hot, and the

pulse quick, and if not soon relieved, has a very serious and obstinate fever established. The headach in this fever, depends on the state of the stomach. It goes off at times entirely, but always returns before a fit of sickness or vomiting.

There can be no doubt as to the cause of this disorder, and there is little difficulty in checking it at once, by giving, on the first appearance of indisposition, a dose of ipecacuanhæ, and afterwards a smart purge. If the emetic be delayed for some hours, or till next day, it may mitigate, but seldom entirely removes the disease. It is often astonishingly difficult in these fevers, to move the bowels. Large doses of physic produce very little effect: often, after being retained for some time, they are vomited. In this case, they must be assisted with injections.

The other variety, the consideration of which will include the former treatment of the last disorder, begins often more gradually, the child being for a day or two unwell, before it be altogether confined to bed. In the day time, it has several attacks of feverishness, during which it is dull, languid, and disposed to lie down or sleep. In the intervals, it seems pretty well, but is easily put out of temper. The appetite is whimsical, and it cannot eat what it asks for. It has but little thirst, and at this time the tongue is pretty clean. The bowels are generally bound, but sometimes loose, and in this case, the stools are offensive. These symptoms may continue for a day or two, or even for a week, before the child becomes so ill as to keep its bed, or to have a formed complaint. Then an acute paroxysm of fever takes place, generally preceded by shivering, and attended by vomiting; the pulse becomes very quick, and runs so high sometimes as a hundred and forty in the minute. The cheeks are flushed, and the child drowsy, but it has no pain in the head, nor any where, unless, perhaps, in the belly; for in some cases, it is sadly tormented with gripes, or even fixed pain in the bowels. The tongue now becomes foul, and the bowels appear to be very torpid, the appetite is totally lost, or what food is taken, is not digested. The stools are fœtid, dark coloured, sometimes like pitch, or thin and olive coloured, or green, and curdy-looking. The breath is offensive. There

is a great desire to pick the nose and lips, so that sometimes if the child be not watched, an ulcer may be produced. The fever does not continue alike severe during the whole day, but becomes less at times, though not at any stated hour. Each increase is attended with drowsiness. The face is occasionally flushed, and the eyes suffused; at other times it is pale, and the eyes dull and white. Generally delirium occurs in the course of the disease; but by speaking to the child, it can be recalled from this, and answers correctly: or, although sometimes delirious, yet for an hour or two, it may be tolerably distinct, and insist obstinately on being carried out. The debility in many cases is excessive, the child picking the bed-clothes, whining in a fatuitous manner, and staring vacantly; yet even in this state, it may often be roused, and seems to understand, at least so far as to reject what it dislikes. This disease runs on for a week or two, or even for several weeks, during which time, the appetite is very trifling, the thirst not urgent, the strength exhausted, the body wasted, and the feverish symptoms varying a little, but not greatly, in degree. If the fever continue obstinate and violent, the belly become swelled, and the debility and stupor increase, the danger is great.

This fever bears a resemblance to dropsy of the head, especially in the commencement. But in such there is more frequent vomiting, and the pain in the head is generally severe; whereas, in this fever, there is either no pain, or it is evidently connected with the state of the stomach. By a careful comparison of these two diseases, in their progress, a practitioner, in most instances, may form a correct distinction.

It is generally proper to commence the treatment of this disease with an emetic of ipecacuanhæ, succeeded by a brisk laxative. This practice, if adopted during the state of indisposition which precedes the complete formation of the fever, will cut short the symptoms; and if laxatives be afterwards administered, till the bowels are brought into a correct state, a perfect recovery is the consequence. If, however, the fever has fairly taken place, we cannot expect immediately to remove it, but must be satisfied with a slower process. The great remedy, still to be depended on, for mitigating the disease, and

abridging its duration, is purging, which is proper in every instance; for if the patient be not costive, the stools are at least unnatural. In some instances, the usual doses of medicine will be sufficient; but often the bowels are so torpid, that much larger doses will be required. This is a point of practice, which requires discrimination: for if the dose be not sufficient in quantity to purge, or if it be not repeated, so as to evacuate the morbid contents of the bowels, we come short of our object. On the other hand, if the purging be carried farther, we weaken our patient, and injure still farther the intestines.—Two circumstances will direct us in this matter: the state of the stools, and the effect on the pulse and on the strength.—When the stools are fœtid, or unusual in colour or appearance, purgative medicines are necessary. When these remedies do not exhaust the patient, and render the pulse more frequent and smaller, they do good, and have not been pushed too far. With regard to the dose, that ought to be no greater than is adequate to the effect. At first it is useful, and often absolutely necessary, to give one or two brisk and large doses; but afterwards, it is usually better to give only such doses as will keep the bowels open, and support their action. Where there seems to be much irritation or pain of the bowels, an opiate clyster may be also given occasionally, and with much advantage. The belly is likewise, if there be much pain or griping, to be fomented, and rubbed with anodyne balsam.

During the use of purgative medicines, worms are frequently expelled, which has given rise to a belief that they occasioned all the symptoms, and hence this has been called a worm fever. That they may increase the disease, or, if in great quantity, may immediately produce it in some instances, I allow; but in many cases, they never appear, and therefore the appellation is improper. Whether they exist or not, is not of so much consequence, as may at first appear; for it is by all admitted, that the cause of the fever consists in a morbid state of the bowels, and that this is to be removed by purgative medicines, which are equally good for expelling worms.

But although purging, under the restrictions I have made, be a proper practice, yet it is not the whole of our practice. In

the early stage, we employ such other means as allay fever. When the heat of the skin is considerable and steady, sponging the surface with cold vinegar and water, is of service. Should this give much relief, and for a few minutes bring down the pulse, and abate the heat, the cold affusion of water may be safely practised; but it is not to be repeated oftener than once, if it do not give more than usual relief; nor is it to be employed with expectation of permanent advantage, unless immediately after the hot stage has been fully established.

Antimonial wine is useful, not to bring out a copious perspiration, but a gentle moisture, or softness on the surface. Indeed, in my practice, I constantly recommend repeated and continued doses of tartar in solution, to keep up slight sickness at the stomach.

From first to last, light food must be given, in such portions as the patient can take. Panado, arrow-root, &c. are very proper. Toast-water, whey, milk and water, lemonade, ripe fruit, &c. are useful for quenching thirst.

Great attention is to be paid to cleanliness and ventilation; and when convalescent, a removal to the country is of much benefit, in confirming the health.

Young infants are subject to a variety of this fever, which begins with loss of appetite, restlessness, fretfulness, hot skin, quick pulse, and continual drowsiness, with bad smelled breath, and appearance of being hurt if touched or moved. There are generally distinct remissions, during which the child is easier, and takes the breast. There is no appearance of teeth, which distinguishes this from teething fever. It is more apt to be mistaken for dropsy of the brain: but in that disease, there is more impatience of light, heat in the head, screaming, or wak'ning suddenly and in terror, &c., and in the advanced stage, the symptoms of oppressed brain are evident. The treatment is to be conducted on the principles already laid down, particularly by procuring stools; for it will generally be found, that the bowels have been previously costive, or in a bad state.

Children are also liable to the common nervous, or typhus fever. It is not unusual, when this disease gets into a family, where ventilation and cleanliness are neglected, for it to attack

in succession every one, from the eldest to the youngest. It approaches generally in a slow manner; the child looks pale and wan for a day or two, the appetite is impaired, the sleep unrefreshing, the skin of a dirty appearance, and the tongue white. Then a chilly fit comes on, or, without any great sense of coldness, the fever invades with a feeling of weariness and oppression, the pulse becomes frequent, vomiting or squeamishness comes on, the head is painful, the skin hot, and the eyes dejected, or sunk. These symptoms have generally a remission, once in the twenty-four hours. Should the disease gain ground, the weakness increases, the pulse becomes more rapid, delirium takes place, and then the child sinks into a state of stupor, the eyes half closed, the teeth covered with a black crust, and the stools are passed without knowledge. This state ends in dissolution in a fortnight or three weeks.

In this fever, at the very first, an emetic is to be given, succeeded by a pretty smart purge. If the skin be very hot and dry, and the child do not at the same time feel any chilliness, the affusion of cold water will be very serviceable in the early stage. But if this be neglected, or not practised, then you are to sponge the surface with cold water and vinegar. If the head be painful, one or two leeches, according to the age, are to be applied, in the beginning, to the forehead; and if the pain continue, and delirium approach, the head is to be shaved, and a small blister applied. If the skin be parched and hot, and the sponge afford no permanent relief, a little antimonial wine will be proper. The bowels are, during the whole progress of the fever, to be kept open, and occasional purges are of much benefit, when the stools are offensive or unnatural. When there is much oppression, and a dry, foul tongue, a smart dose of calomel often gives much relief, by evacuating dark bilious stools. The diet should consist of stewed applies, beef-tea, panado, &c.; but in general, very little is taken. Gruel, toast-water, or lemonade, form proper drinks; and ripe fruits, are both grateful and useful. In the advanced stage, cordials, particularly wine, should be given prudently.

When the fever abates, care must be taken to prevent considerable exertion, or error in diet, either of which might cause

a relapse. Nothing confirms the health, or removes the consequences of fever, so effectually, as change of residence, at least with the inhabitants of towns.

SORE HEAD.

Children, especially those not very cleanly and having a good appetite, are subject to a sore head, sometimes called *reef*, or *felon*. It often begins on the fore part of the head, in large white scabs, which, if neglected, spread over the head, forehead and face, in large patches. In the beginning, generally it is dry; at other times, it is moist and has a thin discharge.—Medical writers have named this complaint *crusta lactea*, or milky crust, from its appearance. The children of the lower order of country persons, who are gross in feeding, are most subject to it; and it seems to be occasioned by a want of cleanliness and exercise, which children, who have a bountiful supply of suck, require; but to which, parents in this situation are not often disposed, or seldomer have opportunity to afford them. A cabbage leaf is a very common application, as it promotes a discharge from the head, which is supposed necessary, previous to the cure; but as such a discharge is no way necessary, and as it makes the head uncommonly offensive, it is better not to encourage it; and the sooner the complaint is cured, the better. For that purpose, take of *brandy*, and *water*, each equal parts; or one part brandy, and two of water; mix them together, and bathe the parts of the head and face where the complaint is, once a day, and immediately afterwards lay on a plaster of *calamine cerate* (commonly called Turner's cerate) spread upon a linen rag, which is also to be renewed every day, after each washing with the *brandy* and *water*. Two or three doses of physic must be given during the cure. *Bathing* in the sea, will be of great use. (Try the *salt bath*.) I have met with no cases which were not readily cured by these means, and with perfect safety to the child. If the child be purged, no inconvenience can attend the early removal of the complaint, as I am fully satisfied of, by repeated experience.

A child is liable to have this complaint in the first or second month, or afterward; it is uneasy to the child, and very disagreeable and offensive to the sight and smell. The applications must be continued while any remains of the disorder can be discerned.

SCALD HEAD.

Children of about four or more years of age, are very liable to sore heads, that differ from the preceding; as the soreness is confined altogether to the head, except that it will extend to the neck if neglected. It begins in distinct brownish spots, that form a scab and discharge a thick, gluey matter, that sticks amongst the hair. The spots increase and enlarge so as to cover a great part of the head. When these spots are discovered, the hair upon and about them must be cut as close as possible, and they must be washed well, every day once or twice, with soap and water. Should that not prove sufficient to remove them, they may be daily anointed with a little tar ointment, or Barbadoes tar, with the point of the finger; which rarely fails of a cure. The scald head, which is either this complaint in the extreme or nearly allied to it, may be treated in the same manner; and which will be going as far can with propriety be attempted by females.

THE MEASLES.

The measles, like the small-pox, do not often attack young children, who will frequently escape, although the disease be in the same house with them. The measles prevail most in the spring season.

The signs, or symptoms of the measles, are a sickness; a heaviness; a thirst; a short, dry, husky cough, with hoarseness; a sneezing, and running at the nose; and a running and thin discharge from the eyes, which appear red and much inflamed, particularly the eye-lids; sometimes cold shiverings. These symptoms are commonly slight at first, and increase till the

measles come out; which generally happens on the fourth day from the first attack, although children will frequently be much indisposed for a week before they come out. At the first appearance of the measles, they look like flea bites upon the face and neck, in distant spots; but, soon after, the face, neck, and breast, are covered in patches, resembling a thick rash that does not seem to rise above the skin, although it may be discovered by the touch and feel of the hand, to be a little prominent or raised upon the face and breast, but not upon the other parts of the body. The measles, like the small-pox, come out first upon the upper parts of the body, and last of all upon the feet; and they observe the same progressive regularity in going off.

There is no disease to which children are liable, that is so sickly, and attended with so much depression and dejection, as this; as it is very common for the most lively children to lay in a stupor, or state of heaviness and seeming insensibility, from the second day of the attack, during the whole of the complaint, which continues three days after the first coming out: on the third day, the eruption begins to look paler; and, on the fourth, goes off with a mealy appearance upon the skin. During the whole of the complaint, there is a smart fever, which often, with the cough, and a difficulty of breathing, increase in proportion as the disorder advances, and will sometimes be the most violent and severe at the height, or turn of the measles: sometimes the fever, cough, and other symptoms, abate: and the child recovers, in part, his spirits soon after the measles come out; but this is not often the case.

A child in this complaint, must not be kept either very warm or very cold: it ought not to be kept near the fire, nor yet suffered to breathe the cold air: it will be best to confine it to one room that is moderately and temperately warm; cold air will add to its hoarseness, and make the cough worse. Its drink may be water, barley water, milk and water, balm tea, or any weak liquor; but water, or milk and water, seems most agreeable to children at this time. What it drinks ought to be a little warmed, but not hot. Wine, and cordials, in all shapes, must be totally avoided.

These are the most material precautions which are to be observed on the first attack of the measles; and although it is not always thought necessary to have recourse to medicine, it may frequently be employed to great advantage. It will always be proper to give something at the beginning, to procure two or three loose stools; as the infusion of senna, salts, oil, prunes, or manna; rhubarb, in any shape, is not very proper. *Bleeding*, with leeches, or with the lancet, has been thought necessary, particularly when the cough is severe and violent; but it ought to be very cautiously ventured upon.

Blisters, applied between the shoulders or to the sides, have been found of great use in abating the cough and relieving the breathing, and may safely be applied at any period of the disease, if the cough and breathing be bad. Cupping the sides and back, will be equally efficacious.

A fever always accompanies the measles, and is the cause of the drowsiness and stupor which children have in the beginning, and often during the whole of the complaint. Nothing will so sensibly check and abate this fever, remove the drowsiness, and restore a child's spirits, as repeated doses of the antimonial puke; it may be begun with on the second or third day after the sickening of the child, and after the stools have been procured as above directed, and repeated, once a day at least, while the fever and heaviness continue; it will be particularly proper to give it in the evening, at which time the fever is commonly most severe; and if it operates, as it generally does, both by vomit and stool, it will give most sensible relief; the fever, heat, and oppression, will be considerably abated; and the child will be much more easy and cheerful, and more tranquil and composed, than before taking it.

The fever and cough will very frequently continue, without much abatement, for a few days, or a week, after the measles are entirely gone; but which may be greatly relieved, or entirely removed, by opening physic; a dose of which may be given as soon as the measles are turned: and repeated once, or twice, in the course of a week. The stools are generally very offensive and the matter of which they are composed is, whilst retained in the bowels, sufficient cause for the fever; and it may

reasonably be supposed to be the cause, when the relief that is obtained by the discharge of it, is considered; as the fever is sensibly subdued by the operation of the physic; and it is on this account that repeated doses of physic are found so requisite after the measles. It may always be known that the fever continues, while the dulness, thirst, and want of appetite remain; and, during which time, the physic ought to be given, at proper intervals, if no other cause forbids it. It may also as certainly be known that the fever is gone off, when the child's spirits and appetite return; and when they do return, the physic may be discontinued. The danger from the measles is much increased when they happen to be connected with the small-pox or whooping-cough; and therefore, so circumstanced, they require more medical attention than is generally bestowed upon them.

The eyes, and particularly the eye-lids, will sometimes remain sore, swelled, and inflamed after the measles. The cough also, will oftentimes continue for some time after the fever and every other remains of the measles are gone. While either of these complaints of the eyes, or the cough remain, the child ought not to be suffered to go out of doors, or be exposed to the cold; as the air, of a cold season particularly, is very apt to add to and greatly aggravate these complaints, and may make them very troublesome and tedious. Too much caution, therefore, in avoiding cold, cannot be observed, while there is any remains of sore eyes, or cough. The measles sometimes leave these symptoms for the remainder of life: which most frequently may be attributed to a too early venturing out, which of course would have been prevented by seasonable confinement within doors. When these complaints are of long standing, their cure is difficult and tedious. A warm climate, issues, blisters behind the ears and back of the neck, and living on a low diet, tend most to afford relief. The blisters are to be allowed to heal, and then renewed, in preference to keeping them constantly discharging. Nor is there the slightest doubt, but that cupping the same parts will frequently prove serviceable.

OF WORMS.

Worms of different kinds, are found in the bowels; but there are chiefly two, met with in children, the lumbricus, or long worm, having a general resemblance to the common earth worm, and the ascaris, or small white worm, like a bit of thread. These two kinds inhabit different parts of the bowels, the small worms being confined to the under part, or straight gut, whilst the other is found much higher. It is extremely difficult to account for the production of worms, as they are generally different from those found in the earth, or on vegetables. It is evident that they cannot be of external origin; but how they come to exist in the bowels of a child, is a very difficult question to answer. It has been popularly supposed, that particular kinds of food, or sweat-meats, or unripe fruit, breed worms; but this is only true, in so far as these disorder the stomach and bowels, and weaken their action; for worms rarely appear, when the action of the bowels is vigorous. It is also observable, that few infants have worms, till after they are weaned, which is to be accounted for on the principle, that the bowels are in better order during suckling, than afterwards, when the diet is more varied and indigestible.

Worms may exist without producing any symptom, until they either accumulate in considerable quantity, when they cause more or less irritation in the bowels, or some slight indisposition takes place, and they, by their irritation, increase it. All the injury they produce, is that of irritation: but the degree of this, and the effects of it, must vary, not merely according to the number of worms, and their movements, but also according to the state of the bowels themselves. It is also to be remembered, that as a weakened state of the bowels is favourable for the accumulation of worms, many of the symptoms may proceed from that state alone, independent of the new irritation.

The long worms may be suspected to exist, when the child complains of frequent griping, or pain in the belly, has repeated and unexpected attacks of looseness, variable appetite, be-

ing sometimes seized suddenly with extreme hunger, has swelling of the belly, especially at night, disturbed sleep, frightful dreams, and grinding of the teeth. Besides these symptoms, we also observe, that the countenance is alternately pale and flushed; the child picks its nose, has foetid breath, dry cough, and sometimes slow fever, or convulsive affections. These symptoms may exist in different degrees, and are ultimately attended with the expulsion of worms, either by vomiting or stool. It has been supposed that a very obstinate and protracted fever, called worm fever, might also be produced: but this generally depends more upon costiveness, or a deranged state of the bowels, than simply upon worms. It resembles a most formidable disease, the water in the head.

A variety of worm medicines have been employed, such as tin powder, tansey, sulphur, hellebore, worm seed, cowage, Indian pink root, &c. In general, however, we find, that with children, the most successful plan is to give frequent and repeated purgatives, to expel both the worms and morbid stools, and also to excite and support the due and vigorous action of the bowels. For this purpose, the occasional use of a suitable dose of calomel, and the regular employment, on the intermediate days, of aloetic pills, if the child can swallow them, will be effectual. The extent to which this plan is to be carried, and the period for which it must be continued, will depend on the effects produced. As long as the stools are foetid and unnatural, the purging should be copious, and be continued.

In cases of a third species of worms, called *tænia*, it is sometimes difficult to cause the expulsion. It is most common to adults. Besides the common powerful medicines for adults, large doses of the spirit of turpentine have been recommended, (taken in milk,) on an empty stomach in the morning. The dose to be from two to three table spoonfuls, for the robust.

A decoction of tobacco, applied to the stomach, has often caused the expulsion of worms, when other remedies failed.—But I never knew a case of failure when the patient was freely purged with calomel, and then given either the worm-seed oil, agreeably to the directions on the phials in which it is sold, or the Indian pink root in tea. The oil should be given on an

empty stomach in the morning; or the tea taken occasionally throughout the day, in doses to suit the age of the patient.— About ten grains of the powder may be given to a child of eight or ten years old, two or three times a day. When in over doses, it is apt to affect the head, and the quantity is to be lessened.

The generation of worms may be prevented by whatever will strengthen the bowels. A good, healthy diet, a little pure wine, the ordinary tonics, rust of iron, bark, or bitters, may be tried.

SUMMER COMPLAINT, CALLED CHOLERA INFANTUM.

This is a disease which carries off, annually, thousands of the children of this country, particularly of the towns. It generally appears in June, a few days after the hot weather commences. It is a fever arising from the heat and change brought on in the atmosphere by the season, attended with obstruction in the liver, which causes the copious secretions in the stomach and bowels. The matter thrown up from the stomach, and discharged from the bowels, varies in almost every case.

It is to be prevented, by carrying the children to the country in the beginning of the season; by riding them out every morning before the heat of the day is considerable; and by keeping them in the coolest part of the house. One of the best institutions for our summers, productive of incalculable good to this country, would be the establishment, in our towns, of waggons or carts, to take all the poor children about a mile into the country every morning; and whether to remain there or not until night, in all probability, the bowel complaint would be effectually prevented, and their constitutions effectually strengthened. I have long been so deeply impressed with the vast importance of this daily exercise for children, especially in the beginning of hot weather, that when unable to procure a carriage, for my children to make an excursion in the country every day, I have substituted any kind of vehicle which could be procured.

The cure, when the disease has appeared, may be *commenced* by the mother, in giving the child five grains of calomel; the purging of which to be promoted by giving fresh meat tea.—The disease is often kept up by the irritating, offensive matter in the bowels; and therefore the bowels are to be kept open by active medicines, until the high action subsides. There should be given daily, every two or three hours, about a quarter of a tea spoonful of prepared chalk, (which is common chalk powdered and washed well,) for the purpose of correcting the offensive nature of the contents of the bowels. A little salt of tartar, or ley, will answer; also finely powdered charcoal, or crust of bread burnt black, either taken in a little milk. A most important remedy, which ought to be resorted to in every instance, is cupping the right side, opposite the liver. It had better be after the skin is a little scarified, or cut skin deep with a sharp lancet; if not, dry cupping will do some good.—This cupping may be extended to every part of the body, especially the lower extremities; it is for the purpose of drawing off the blood from the interior, and should be daily tried in every case. After a second purge is given to the child on the second day, if the lax continue, one grain of calomel with one drop of laudanum, should be given twice a day, for three or four days: in these cases, the calomel will not be apt to salivate. The child should not be *removed* until recovery, as rest is very important. Should the disease have continued for some time, apply brandy on the belly. The tincture of Spanish flies, or a blister applied for an hour or two, to redden the skin of the belly, on the wrists, and on the legs, will be of great service.—The child should be removed to the country as soon as its disease subsides. After the febrile action is reduced, a little laudanum may be given to lessen the relaxed state of the bowels. The diet should be of the best kind. By such treatment, occasionally aided by the warm bath in the beginning, children may generally be cured; but I would always recommend the employment of a physician, if the first dose of calomel, with cupping, should not relieve.

HOOPING COUGH.

There is no disease more generally treated improperly by parents, than the whooping-cough. In the beginning, it is always an inflammatory complaint, requiring evacuations and determination of blood to the surface of the body. Instead of the variety of prescriptions in daily use, give the child an emetic, to be repeated every day or other day, unless the symptoms lessen. For a violent fit of coughing, the best remedy is, to pour in the back of the mouth a tea spoonful of melted hog's lard, which sheathes the part, and lessens the irritation. The tincture of *asafoetida* is highly recommended. I have known relief to be obtained by holding a strong tea of the Jamestown weed in the mouth for a little time, taking care not to swallow it.— A child grown enough for the purpose, will find some relief in holding very hot water in the back of the throat. It is of great importance to children in this complaint, to keep the skin in good state. A coarse flannel shirt, in some cases; in others, a very rough piece of *oznaburg* around the breast, have been of great service, by keeping up friction on the surface. With the flesh brush, or a ball of wool, the surface of the body should every night be rubbed. Exercise in open air, while the body is kept comfortable, is immensely salutary, as well as change of residence for a few weeks, which scarcely ever fails to afford relief. The juice of garlic sweetened, lessens the cough. A solution of soda, also of potash, in doses of three or four grains, and sweetened with liquorice, is a valuable remedy. Twenty grains of tartar emetic and an ounce of the tincture of Spanish flies, nightly rubbed on the stomach, is a remedy highly extolled.

OF THE CROUP.

The treatment of this disease, ought to be understood by every mother. It is known by a singular, hoarse, hollow kind of breathing, and by symptoms approaching to suffocation.— Those living in rooms warmed by stoves, are most subject to

attacks of it. The remedy is an emetic, the instant the attack commences. When practicable, in violent cases, blood-letting by the lancet, or by cupping, should be prescribed. In general, repeated emetics effect a cure. The child should be kept reclining in a tub of warm water, and the emetic be given every ten minutes, until the difficult breathing is lessened. When the choice of emetics can be had, seven grains of tartar emetic, in as many spoonfuls of warm water, half a spoonful poured down the throat every ten minutes, so as to keep up a constant deadly kind of sickness and vomiting, will be the best. When the determination to the throat is relieved, the child is to be treated as in common fevers, by purging and other evacuations. But remember, the means of exciting vomiting and sickness at stomach, with determination to the skin by hot water, are not to be abandoned until the distress of the breathing is relieved. In the case of one of my sons, attacked about two o'clock in the morning, with perfect success, I kept him vomiting every ten minutes for five hours, frequently introducing in the back of the throat, a small feather well oiled, to hurry the operation. A blister all around the throat, will prove of great service; and the child should drink continually of strong Seneka snake root tea. The best purgative is calomel, which seems to act beneficially, exclusive of its evacuating power.

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ADDRESS V.

TREATMENT OF DISEASES,

WHICH

REQUIRE IMMEDIATE ATTENTION.

IN general treatises on diseases, it is customary to make some sort of classification. But I know of no two authors, who, on this subject agree in their arrangements: nor indeed of any classification to which strong objections may not be very justly made. Diseases are so interwoven with each other, the shades of difference so imperceptible; that it seems impossible to do it with any thing like tolerable satisfaction. On this account, I adopt no system: but indiscriminately select such affections as present themselves to me in the order of the importance of their being most generally understood, as much on account of their frequency as of their danger. And first, I will make some remarks on common

FEVER.

There is no disease so general, so imperfectly understood, and so frequently fatal, as the various fevers to which we are subject. Proteous like, it shows itself in so many ways, in such strange variety of form, that, as Dr. Thomas observes, "it is impossible to give a concise and proper definition of the disease known by the name of fever."

In general, we judge of the presence of fever by irregularities or changes from the natural state of the pulse and of the skin; the colour of the face, the eyes, the tongue; the breathing, the appetite, the state of the stomach and bowels; the sensa-

tions of pain, of strength, and of disposition to sleep. Sometimes all these exhibit disease; but sometimes the most remarkable or conspicuous appear healthy, although great danger may exist. The subject, to be well understood, requires a most minute and diligent investigation. But for our common fevers, enough is known, and may be easily understood, to lessen their great ravages.

The ancients supposed fever to arise from the efforts of the system to expel morbid matter in the body. But this doctrine, long since, has been found to be erroneous. Their successors supposed it to be the effort of a spirit of life (*vis medicatrix naturæ*) to overcome the constrictions or spasms of the small vessels. Again, it has been contended that it altogether depended on the nervous system. The famous Dr. Brown maintained that it arose from stimulants, either in excess or deficiency, producing too much or too little action or excitement in the blood vessels. Our countryman, Dr. Rush, taught that there was but one disease—and that was irregular, *morbid*, or *convulsive* action in the blood vessels. Professor Chapman, of Philadelphia, considers most diseases as originating in the stomach.

I take a very different view of the subject: one that is obviously to my mind, more an induction from facts. In the sketch of the composition, formation, or make of the human body, I stated that it is made of three distinct systems or vessels—the nervous, for supplying the animating capacity; the sangriferous, or blood vessels, by which the secretions of the body are formed; and the absorbent vessels, or consuming system, by which all parts of the body are perpetually taken up and carried again to the blood and its vessels, to undergo a sort of re-manufacture. Now, these systems are, in their animal relation and mechanical construction, so interwoven, that it is impossible to separate them; and it is equally impossible to affect one, without more or less affecting the other. The first physicians, from their partial views, would naturally be struck with the most conspicuous result of fever—the fluids of the body.—Their successors, seeing the error, would equally naturally be impressed with the effects on the sensorial power, and ascribe

all to it: and in like manner, when this error was detected, Dr. Brown and his successors were, and are still, for attributing all to the *more or less or irregular* action of the blood-vessels.

A deliberate view of this subject—made without reference to what first strikes our senses, will satisfy any impartial, unbiased observer, that the absorbent or consuming system is secondary to neither of the others in power, in activity, and in its agency in producing disease in itself, the nervous, and blood-vessels. Its power is immense: for in one night, it has been known to take up gallons of water from the belly and other parts in which it had been diffused during dropsy, and then depositing it in the blood vessels, force them to disgorge or evacuate it. Its activity is shewn by the above fact, as well as its constantly taking up the whole substance of the body: its agency in producing disease; by being excited into unnatural action, taking up such large portions of the body as to enfeeble and emaciate it, pouring it so continually in the blood-vessels as to keep them full and in high action during continued fever.

These effects establish that the absorbent system is one of the great causes of the continuance of fever, in constantly supplying the blood-vessels with an undue portion of material for blood, thereby keeping up their irregular action, and therefore calling for the profuse evacuations we are obliged to make in fever of high action, although no food be taken for weeks.

Heretofore, in the treatment of fever, attention has been confined chiefly to the nervous and blood vessels: but a more extended view would embrace the absorbents. We can rouse these to action, but know not how to arrest it. The man who may hereafter discover the most effectual mode, will, in my opinion, rank among the greatest discoverers in medicine.

When the action of the heart and arteries is accelerated—no matter from what cause that it is continued, or through which of the three systems we have named,—it is followed by more or less interruption in the circulation of blood through the liver. You should remember that the circulation of blood through this organ, is carried on by veins, which are always slower in their motion than the arteries: and you should also remember that these veins come from all those parts engaged

in the digestion of our food, and formation of our chyle for blood, called the *chylopoetic* parts, or *viscera*. Now, it follows, therefore, as a necessary consequence, that any accumulation of blood in the liver, any kind of obstruction, must unavoidably cause the blood to fall back on the stomach, bowels, and other of the important parts concerned in making the chyle. The stomach sometimes has been thought to be the seat of the soul, so intimately is it connected with all parts of the system, or so much do all parts sympathise with it. Hence, although it may unquestionably (as all other parts) have original disease, there is no doubt but that the greater number of its affections, and of course other parts connected with it, arise from the liver, instead of the stomach, as maintained by Dr. Chapman.

In the treatment of fevers, it is of the utmost importance that you should constantly keep this view of the subject in your minds. It shews fully the necessity of two things: the first is, of free purging, to empty the vessels of the bowels, so as to prevent the blood from too long stagnating in them; and, the bowels of their contents.—The other main object, is to draw the blood from the interior, so that there shall be action on the surface, to relieve the *engorged* or stuffed vessels of the interior. Hence the great object in the treatment of fevers is, according to Dr. Rush's doctrine, to equalise action. But this is to be done much according to the principles of Dr. Brown—in reducing or increasing excitement, according to the high or low state of the body, and we are necessarily obliged to attend to the state of the stomach, according to Dr. Chapman, as it is one of the chief mediums through which we are to operate on the whole body. According to my particular views of this subject, these theorists pay too exclusive an attention to the action of the vessels. Surely this action is of primary importance; and so is the *state, condition*, or construction of the vessels, as explained by me on the subject of secretion. Sometimes it is impossible to decide when the system is in a critical state, whether it be bordering too much on the high or low action; whether we should add to or take from its excitement. Here, then, according to my views, we have to change the state of the solids of particular parts, so that they may revert to their natural con-

dition with all those which sympathise or are particularly connected with the part on which we operate.

Fevers are supposed to terminate particularly on certain days called critical days. But I do not believe there is any ground for such distinction. The days on which they are supposed to end, are the third, fifth, seventh, ninth, eleventh, fourteenth, seventeenth, and twentieth.

Candour induces me to state the fact, that it is very doubtful whether the mode of treating fever has been materially improved since the days of the first medical writer, Hippocrates. Notwithstanding the great variety of theories, the practice has been pretty much the same in all ages—to evacuate in an inflammatory state of the system, and to stimulate in cases of low action. And if there be an improvement in the treatment of common fever, I think it is in the use of antimonial medicines.— Their operation is not understood; but they certainly tend to lessen or subdue diseased action in the blood-vessels. The best form of their administration, is in small doses of tartar emetic, continued at short intervals so as to keep up a constant sickness of stomach, with its usual attendant, a state of perspiration on the surface of the body.

When the action of the blood-vessels is considerable, bleeding is indispensably necessary. Free purging with the most active of the medicines of this kind, is generally called for; and these evacuations are to be regulated by the state of the patient, the degree of his diseased action.

In every case of high fever, I would not only recommend constant evacuations from the bowels: but the purification of their contents by repeated doses of prepared chalk, of the salt of tartar, or charcoal in powder, and of yeast, with a little of the dust of charcoal in it. This is more particularly necessary in fevers called *nervous* or of low action, where the contents of the bowels seem in a stagnant state and very much tending to putrefaction. In such cases, stimulants, laxatives, washing with cold water, and blisters, constitute the proper remedies.

Fevers may be considered as of two kinds—original and symptomatic, or arising from some local affection; as, for example, the fevers arising from wounds, from inflammation of

particular parts: as the lungs in pleurisy, the bowels, kidneys, &c., which will be treated of under their particular heads.

Original fevers may be divided into three distinct states.—The first, of a violent kind: the second, of an intermediate state: and the last, of a low, nervous, malignant character;—each of which states may arise in the same person during one attack.

Dr. Rush enumerates the following causes of fever:—1. Exhalations from marshes. 2. Putridity of Cabbages. 3. Potatoes. 4. Pepper. 5. Indian meal. 6. Onions. 7. Mint. 8. Anise and carraway seeds. 9. Coffee. 10. Chocolate shells. 11. Cotton. 12. Hemp, Flax, and straw. 13. The canvass of an old tent. 14. Old books and papers that had been wet. 15. The timber of an old house. 16. Greenwood, confined in a close cellar. 17. Green timber of a new ship. 18. The stagnant air of a ship. 19. Bilge water. 20. Water long confined in casks at sea. 21. Stagnant rain water. 22. The stagnant air of close cellars. 23. The matters usually stagnant in gutters, confined streets, and sinks of kitchens. 24. The air emitted by agitating stagnant water. 25. A duck pond. 26. A hog sty. 27. Weeds cut down and exposed to heat and moisture near a house.

He also states fevers to arise from—1. Human bodies unburied. 2. Salted beef and pork. 3. Locusts. 4. Raw hides confined. 5. A whale putrefying on shore. 6. A large bed of oysters. 7. The entrails of fish. 8. Privies.

The usual forms of disease arising from these sources, are,

1. Malignant or yellow-bilious fever.
2. Inflammatory bilious or remittant fever.
3. Intermittent fever.—All occasionally degenerating, the one into another, and into the lowest or nervous fever.

You must surely perceive, under these circumstances, that it is actually impossible to give particular directions for the treatment of original fever. To attempt it, would be an imposition. And I feel more than you do, the defect on this subject in the healing art.

But suffer me to impress on you anew the general directions. Learn the particular nature of the prevailing disease. In cases where the pulse is full or hard, resort to free bleeding and large doses of calomel, united to small doses of emetic tartar. After proper evacuations, let blisters be applied to parts opposite, where there seems much internal affection. When the heat of the body is considerable, sponge it, or rub it over with a cloth dipped in cold water, or vinegar and water. Never suffer the contents of the bowels to be stagnant, and correct their offensive state by prepared chalk or charcoal. Let the drinks and diet be of the mildest kind, such as are commonly called cooling. When the violent symptoms subside, let your dependence be most on antimonials, of which you will find a good form under the head of Dr. Rush's nitrous powders.—When the disease is of a low, nervous kind, resort to the ordinary stimulants of wine, toddy and fermented drinks; to prepared chalk, yeast, and charcoal; to cold bathing, when the skin is hot; to a generous diet of gelatinous soups; to blisters; to dry cupping over the liver and back of the head; to great cleanliness; fresh, pure air; to the best of nursing, especially when the disease is subsiding. Besides the stimulants above stated, camphorated julep and musk have been recommended; I have frequently prescribed them, in obedience to custom: but, with Professor Hosack, of New York, I can truly say, never with any benefit. The most common stimulants are always the best, and most readily procured.

It would be easy to add here, the signs of recovery and death in fevers. But I will make one correct remark, often made by others, that there has not been discovered one symptom which has not been the frequent forerunner of amendment, or fatal issue. The only certain sign of death, is the commencement of putrefaction.

EPIDEMICS.

Diseases prevailing generally in one place at the same time, are usually called epidemics. They vary in most seasons and situations.

There is one important law respecting epidemics, that should always be remembered. It is, that each of them makes all diseases assume its own livery, or character. And as, probably, no two epidemics are precisely alike, the only rational advice which can be given on the subject, is to study or learn the particular nature of each when it occurs. This is incumbent on all to do: as during the prevalence of general diseases, it is impossible to procure the aid of physicians in most cases, as well from their excessive business as their own liability to the prevailing disease. In the well known yellow fever in Philadelphia, in 1793, Dr. Rush thought it incumbent to publish his successful mode of treating the disease: and it was the cause of many hundreds prescribing for and saving themselves, family and friends. A similar course should be pursued, I think, by all physicians, when a new epidemic commences.

AGUE AND FEVER.

This disease is one of our most common epidemics. It most commonly prevails in the fall, and near low lands, marshes, and on the water courses of our rivers. The disease occurs at stated and very various intervals—either daily, or every second, third or fourth day.

A well marked case or fit of ague and fever, is generally divided by writers, into three stages:—the cold, the hot, and the sweating, and is thus described.—The cold stage commences with a sense of languor, of weakness, and aversion to motion and to food, with frequent yawning and stretching. The face and extremities become pale; the features shrink, as do all parts of the body; the skin appears constricted, as if it had been

exposed to cold. At length, the patient feels very cold, and universal shaking comes on: breathing is small, frequent, and anxious; the urine is almost colourless: sensibility is impaired; the pulse is small, frequent, and sometimes irregular.

These symptoms abating after a short time, the second stage commences with an increase of heat over the whole body, redness of the face, dryness of the skin, thirst, pain in the head, throbbing in the temple, anxiety, and restlessness: the breathing becomes more full and free, but still frequent: the tongue is furred, and the pulse becomes regular, hard and full: in cases of great severity, delirium is apt to occur.

These symptoms having continued for some time, a moisture breaks out on the forehead, and by degrees becomes a sweat, which gradually extends over the whole body. As this continues to flow, the heat of the body abates, the thirst ceases, the urine deposits a sediment; respiration is free and full, and most of the functions are restored to their ordinary state; the patient, however, being left in a state of weakness proportionate to the violence of the preceding attack.

Although this be the common description of a common fit of the ague and fever, it is subject to great variations in every stage: depending on as great variety in causes and peculiarity of constitutions. The treatment, whether the disease recurs every day or otherwise, is the same. Our object is to shorten the duration of the fit when it comes on, and to prevent its recurrence.

The treatment when the fit comes on, is, in the cold stage, to take any weak drink as hot as possible; to apply hot applications to the feet; and, to lessen the shaking, it is of service to grasp the limbs very tight, or to apply tight bandages around them, to compress the muscles. When this stage subsides, the drinks should be continued, and a very weak solution of emetic tartar and wine should be given hourly, to favour the sweating. If the symptoms run alarmingly highly, as is sometimes the case, moderate bleeding is proper, and cooling drinks of water and vegetable acids. During the sweating stage, the patient should not be kept very warm, nor exposed to such a current of air as might endanger the sudden suppression of the

sweat. When this ceases, he should be wiped dry, have his clothes changed, and take a little nourishing food.

The duration of the fit has sometimes been lessened by a vomit at its commencement—also by a dose of laudanum, proportionate to the strength of the patient. In proportion to the apprehension of its violence, should be the vigilance of the attention to expedite its termination. A tight band or cord around the arm and thigh of opposite sides of the body, has been highly recommended; and I have successfully applied bandages, extending from the fingers to the shoulder, and toes to the hip—having previously bathed the part in spirit, or in the tincture of Spanish flies or red pepper.

But our great object is to prevent the recurrence of the fit in any degree: and for this, we must REVOLUTIONIZE the whole body. Generally the best practice for this, is first to give a large dose of jalap and calomel, or of any other purgative which will operate powerfully, to be taken at night. The next morning, a vomit should be given: but it is not material whether the vomit precede or follow the purge. The operation being over, the common Peruvian bark in substance, or our astringent oak, dog-wood, poplar, and wild cherry tree barks, should be given in broken doses. The patient may make his selection of the articles classed under the head of tonics: always changing them, and never taking any while he has got a fever.

I have had much practice in this fever, in some of the most obstinate cases, and with persons who have had it for more than two years: and have never, in any instance, failed putting a speedy end to the disease, by the use of the salt bath, followed by some common bitter, or ordinary tonic or strengthening medicine. A quart or half a gallon of cold, strong brine, is to be poured on the naked patient, early in the morning; when he is to be wiped dry, and return to bed for thirty or forty minutes, when he may rise and breakfast. Exercise, particularly before the expected return of the ague, should be freely taken, with a moderate portion of bark, elixir vitriol, or any common tonic. Since I adopted this plan, I do not know that I have ever given an ounce of the Peruvian bark.

Those who choose to take the Peruvian bark, should remember that it is not given more to increase the strength or tone of the system, than it is to shock or revolutionize it. They should consequently not take it long: but in three or four times the quantity ordinarily given, about three or four hours before the expected attack. It is common to add some stomachic to the bark, of which ginger, Virginia snake root, cannella alba, wine, common bitters, a little laudanum, are most generally used.—An ounce to a quart of hot water, constitute the infusion frequently prescribed. Sometimes the bark has been given in injections with laudanum, when the stomach would not retain it. Rubbing the powder of it on the skin, is a much better mode of using it, than the once famous bark waistcoat, made by quilting bark in thin cloth. The bark in a bath, is frequently used on weak persons of irritable stomachs. Decoctions of the barks of our oaks, of the dog-wood, of the wild cherry, and poplar trees, are of equal service, when externally applied, and more economical.

Fowler's solution of arsenic, in doses of six or seven drops two or three times a day, is esteemed a never-failing remedy. A dose of the black spider's web, taken from dark places, (five or ten grains,) has been given with success before the coming on of the fever. Small doses of white vitriol, and of copperas, have been recommended. Powdered charcoal, in doses of two or three tea spoonfuls, and as many times a day, is much used in some countries. Sudden alarm, or very great excitement of the mind, have prevented the recurrence of the ague. Running, over doses of onions, of cider, and, in short, many irregularities, have arrested the progress of this disease. It is exceedingly apt to recur in all cases, unless the person is very careful to not expose himself; change his residence; use the shock or cold bath in the morning; wear flannel next his skin; keep his bowels free from costiveness; dress to suit the season, &c. To conclude, I repeat, the system is to be *revolutionized*, by purging and free vomiting; followed by the shock of the salt bath, and a moderate use of tonic medicines, to be frequently varied, as one kind continued ceases to be strengthening.

The ague and fever long continued, is apt to end in congestions or enlargements of some of the contents of the belly, particularly the spleen and liver. The skin, too, is apt to become of a yellowish, sallow hue, and dropsy not unfrequently follows. This renders it the more important to arrest this unpleasant disease: and should teach the necessity of freely emptying the bowels, and of determining to the skin by antimonials during the fever, and occasional blisters opposite the liver and on the extremities.

For the diseases of the spleen and liver, a change of residence to hilly countries, is of great consequence, as well as hard rubbing the skin with a brush and salt. A salivation, conducted slowly, will generally relieve; or, if not, a course of nitric acid. I have seen, or thought I saw, in enlargements of the spleen, (called ague cake,) evident good from wearing a broad belt, as tight as could be borne, around the belly, with a large ball of wool or cotton pressing immediately on or over the tumour made by the distended spleen.

This disease not unfrequently, especially in warm weather, ends in what is called the

BILIOUS, OR REMITTENT FEVER.

Which is nothing more than the same fever without intermissions, though with daily remissions, or partial suspension of the fever, followed by something like a cold stage, coldness of the nose, &c. The treatment is pretty much the same as in the hot stage of the intermittent. When violent, blood-letting is requisite, and in proportion to the activity of the pulse, and state of the patient, must it be repeated.

Frequent purging with calomel and jalap, is imperiously called for, not only to empty the bowels, but to empty their blood-vessels, filled with blood from the obstruction to its passage through the liver. Small and repeated doses of tartar emetic, have a no less powerful tendency to relieve the internal parts, and determine to the skin. Bathing the body, when much heated, in cold water, frequently is of great service. The

drinks are to be of the cooling kind, as a little cream of tartar, tamarind water, weak lemonade, &c.

Pains in the head are to be relieved by applying cloths from cold water. Sickness of the stomach may be relieved by the saline mixture, made by a table spoonful of lemon juice or strong vinegar, added to a solution of potash, fifteen grains to a wine glass of water. Doses of a tea spoonful of prepared chalk should be given three or four times a day, to purify the contents of the bowels; a little charcoal, particularly if in half a cup of yeast, will have the same effect. It is in this state of fever, that the nitrous powders of Doctor Rush, to which I refer, are frequently administered every two or three hours.

When the fever remits, it is then proper to try so to revolutionize the system, as to prevent its rising again, and to insure an intermission. The best mode, I think, in this state, is to give a vomit of tartar emetic, or ipecacuanhæ, and apply blisters to the extremities, either of mustard or Spanish flies, boiled in spirit of turpentine, with a view to redden the skin.—Light nourishment may be taken; indeed, the appetite gratified with a little, only a little, of any article anxiously wished for. When the fever has entirely subsided, gentle tonics, as in the intermittent fever, are to be administered; but with greater care, as the system is then much enfeebled, and slight causes operate powerfully. The most attentive nursing—the most simple nourishment, will be found as serviceable in expediting recovery, as the best medicines.

A higher grade of this fever, and requiring often a similar treatment, is a species of the plague, commonly called

YELLOW FEVER.

So designated from the yellow tinge it gives to the skin.—This disease, though generally prevalent in cities during the close of summer and fall, does in reality take place, more or less, in all parts of the country. It is nothing more than a more malignant form of bilious fever, requiring a more ener-

getic application of the remedies to subdue the diseased state of the system. But in this, as in most other epidemics, there is called for a variation of treatment: some calling for stronger evacuations, with the lancet and from the bowels, than others; depending, it would seem, on the constitution of the atmosphere. It would be very easy for me to extend this article to any length, by quoting an hundred authors. But truth requires that I should state the fact, that no general directions can be given, different from those recommended in common fever, viz: bleed in high action; purge with calomel and tartar powerfully; inject a solution of ten or fifteen grains of tartar emetic into the bowels, as recommended for poisons in the stomach; keep the contents of the bowels free from any offensive state, by prepared chalk or charcoal, with or without yeast; bathe the body in cold water, when very hot; make a free use, and that daily, of cupping the side opposite the liver. Indeed, I would say, cup the whole body, to relieve the determination of blood to the stomach and bowels, from the obstruction in the liver: which will be aided by blistering, and that in the quickest manner.

Again, this fever, especially when not properly treated by evacuations in the beginning, is apt to degenerate into another state, called

TYPHUS, NERVOUS; OR, VULGARLY, PUTRID FEVER.

And this article, too, I could extend to any length, either for your amusement or my occupation. But it would yield you no instruction. The state of the system to which this refers, is one of entire depression. All the energies of life seem to be sinking. A tremulous motion is visible, more or less, in all the muscles. The skin is frequently hot—now cold, now dry, now covered with clammy sweats. The pulse is very feeble; yet, often very quick.

The remedies are the reverse of those for the state of the system in high, inflammatory, or simply depressed condition.—Nevertheless, the local remedies are the same. The bowels

must be kept open—and their contents pure by yeast, charcoal, and prepared chalk. Whenever any part seems more affected than another, then cup freely all around it. Small doses of antimonials may still be requisite, as also washing the skin with cold water and with vinegar when the heat is great. The system is to be stimulated by generous diet, with wine, toddy, porter, and the like. Opium may be requisite, to procure rest.—Blisters are to be applied to the extremities, frequently to red-den or inflame the part, if not to blister. It is usual for physicians, in this state to give camphor, musk, ether, and the like medicines: but, as I have no confidence in their efficacy, I must refer you to them. I believe the best dependence is on our common stimulants, and great cleanliness. As to the quantity of stimulants to be used, it must be regulated by the state of each patient.—They must be given regularly and occasionally varied.—When they increase frequency of the pulse, the dryness of the tongue, restlessness, difficulty of breathing, &c. they are improper. But if they afford apparent relief, make the pulse slower, produce refreshing sleep, they are to be continued.

FEVER OF INTOXICATION.

The free manners of our countrymen, render the effects of intoxication a very constant object of attention. As all the writers on this subject choose to commence with a sort of moralizing sermon, or lecture, about its destructive tendency, I hope you will indulge me with one or two remarks of similar import.

In the first place, if you believe in the Scripture, and have committed any one sin, you have committed all. In the second place, when a man is diseased, it is not your business to inquire how he brought it on himself, but in what manner can you relieve him. The good Samaritan, when he crossed the road to administer relief, did not stop to inquire whether the fellow had tumbled down from drunkenness or not. And, lastly, you may rely upon it, if the horrible anguish of body and

mind, arising from a convulsed, sickening stomach, or a burst of reflections rushing upon conscience, cannot secure reformation, your advice will be as unavailing as fears of your anger or abuse. While the pitiable object pursues his propensity, it is our duty to mitigate the sufferings he entails as well as we can. We should be actors instead of preachers: and when extremes arrive, apply the only certain remedy—that rigid confinement, which is prescribed for all labouring under the like raving disorder of mind and body.

When a man is under the operation of intoxicating liquors, he is in a high fever, with particular disease in his stomach, with which his brain sympathises. The remedy is bleeding, if the fever be high. The free application of the coldest water from head to foot, is the next most powerful remedy. And, lastly, excite vomiting. This can be done by pushing a feather in the throat, or by any of the medicines which produce it.—The bowels being always disordered, a purge should next be given: the best in this state, is magnesia; any purgative will answer; but they will be improved by adding one or two tea spoonfuls of chalk, to correct the contents of the bowels.

If the subject be young, or unused to excesses, the best treatment next day, is highly salted chicken water, or any meat tea, or strong coffee, or garden teas. If he be old in such practices, the treatment should be different: a purge of calomel; if to be bled, let it be in the temporal arteries; and next morning, he should take some laudanum, or a small quantity of the drink he is accustomed to, in which some spice has been boiled. In short, he should be nursed as a man recovering from a long fever. It must not be forgotten, that great care should be taken to have their heads elevated, and a free admission of pure air.

Sometimes persons unaccustomed to liquor, have drank so much at once, as to produce almost instantaneous prostration of all strength, endangering instant death. Under such circumstances, there must be made every possible attempt to excite vomiting. A long, oiled feather may be pushed almost down his throat; twenty grains of white vitriol should be given instantly, if it can be got. Blisters should be applied over

the stomach and feet; the person should be slightly whipt all over with rods, to excite irritation on the skin; and a physician should be sent for, either to introduce a tube and pump out the stomach, or to inject a little tartar emetic into the veins, which has been known to excite vomiting when other means failed. Twenty or thirty grains of tartar emetic, in half a pint of water, injected into the bowels, has proved of great service. Should the patient recover from this stage, his life can only be preserved, in that succeeding, by moderate stimulation, for which laudanum and paregoric will be found equal to any, if not the best. His bowels are also to be cleansed or purged; and calomel is the best stimulant for the purpose, with chalk or salt of tartar.

There are other immediate effects following intemperance, requiring prompt attention. The first is the irritability of the stomach, which is often such as to reject almost every article, often threatening instant death. To recover the capacity of this, any and all of the various articles called condiments, spices, or stomachics, may be tried; milk and lime water, frequently succeed. High seasoned soup and jellies, injections of laudanum, a blister over the stomach of mustard and vinegar, harsh friction on the skin, the warm bath and hot applications to the pit of the stomach, are proper. Spirit of camphor will sometimes compose it—so may a little of elixir vitriol. Cold drinks are always injurious in this state, however great be the thirst.

The second effect is a strong tendency to general convulsions: Trembling of every part, especially the hands and arms. In this state, I would give a large dose of calomel and laudanum: The limbs are to be roughly rubbed until they are reddened: Hot salt rubbed on the skin—cupping down the back bone—exercise as much as possible. Sometimes a vomit has relieved the system in this state. A large dose of calomel should never be omitted: Prepared chalk or charcoal will correct the filthy state of the contents of the bowels. The permanent diseases brought on by intemperance will be treated of under proper heads.

FAINTING FITS.

These sometimes come on suddenly, without any visible warning; and at others, they are preceded by sickness at stomach—some oppression in breathing—paleness of face. They are characterised by an entire suspension of all the animal powers; which continuing for a short time, they become gradually restored.

In rousing the system to action, we are first freely to admit fresh air, and exclude all unnecessary attendants. Cold water or vinegar should be sprinkled on the face: strong smelling articles should be applied to the nose—as volatile salts, ether, assafoetida, burnt feathers, and snuff of a candle. A little wine or spirit should be poured into the mouth, and the extremities rubbed with a coarse brush.

After fainting from excessive evacuations, cordials and stimulating diets should be often given. The patient should be laid down and kept at perfect rest: with hot applications to the breast and extremities.

But, you should remember, that when the fainting arises from a great loss of blood, it ought not to be stopped suddenly: because during such fainting; the blood coagulates and the vessels contract—thereby tending to prevent the continuance of the bleeding.

Persons liable to fainting, or indeed to any kind of fits, cannot be too cautious in avoiding what they have found tending to produce them; they should never be alone: because of the danger of falling so that respiration cannot be renewed, and consequently ending in death, when others are not at hand to change the position of the body.

In general, persons subject to fits, who are of a weakly, delicate nature, will find relief by leading a more energetic life, occasionally using some of the strengthening medicines, mentioned under the head of Tonics.

APOPLECTIC FITS.

These are marked by a sudden diminution of all the senses, and the patient falls down. The heart and arteries—unlike in fainting, continue to perform their functions. The peculiar breathing and profound apparent sleep, distinguish it from an attack of palsy: and the absense of convulsions, makes the difference between it and Epileptic Fits.

It chiefly attacks in the advanced period of life, and most those of short necks and large heads—of full habit of body, free eaters, and great drinkers of ardent spirits. The immediate cause of these fits, is a compression of the brain: often occasioned by the bursting of a blood vessel within: sometimes from the sympathy of the brain with the stomach—as in case of persons drunk, or under the operation of opium or other poisons. It is sometimes preceded by giddiness, pain in the head, drowsiness, loss of memory and faltering of the voice: though frequently it occurs suddenly, the person falling down without the least warning.

In cases of apoplexy, the person should have the head elevated: free air admitted: all bandages or any thing compressing, particularly around the neck—should be removed. In persons of full habit, they should instantly be bled freely: particularly about the temples; and it is to be repeated according to circumstances. They should be cupped over the head—and indeed the more they are cupped every where, the better. A large blister should be applied to the neck and shoulders. An injection of purgative salts, with tartar emetic, should be given. Also large doses of calomel are to be administered. Vomits, after other evacuations, have been found serviceable. Mustard, or water nearly scalding hot, should be applied to the feet, to rouse the system. All who have reason to apprehend this dreadful disease, should live very low, on a vegetable diet, and lead a very industrious life, and cause the return of any suppressed evacuation or renewal of sores which have been healed.

PALSY.

This is frequently the result of apoplexy, and is attended with a loss of the powers of motion and sensibility of parts of the body. It is produced by the same causes which produce apoplexy: by suppression of evacuations: by constant handling of lead and inhaling the fumes of poisonous metals: and by sedentary and luxurious living.

When it takes place in persons of full habits, as in apoplexy, free evacuations by the lancet and purges are necessary. Electricity and galvanism have proved serviceable in chronic cases. When the disease affects several different parts of the body, it is customary to use stimulants internally and externally to the affected part.—Those most used are mustard seed, horse-radish, garlic, volatile salts, ether, and oil of turpentine, in their ordinary doses, and to be frequently changed the one for the other. The parts affected with the palsy, may be rubbed with the volatile linament, oils of turpentine and sassafras, red pepper, and Spanish flies in spirit, powdered mustard, and whipt with nettles—in short, any thing may be used that will irritate the skin. In cases attended with loss of appetite and great weakness, any of the tonic, stomachic, and stimulating medicines may be given in full doses.

Palsy of the lower extremities frequently arises from a disease in the back bone: and the most successful treatment, is to keep issues or blisters constantly discharging for months from the surface of the part where the disease commences. Children are most subject to this disease. Sometimes it comes on suddenly, and at others is preceded by a sense of feebleness, languor, and numbness in the extremities—occasional stumbling, and dragging the legs, instead of lifting them properly. If parents would early pay attention to such symptoms in their children, and have blisters applied at once to the back bone, where there seems, on feeling, to be a little tenderness, they would save many children from deformity for life. Issues were

formerly used; but a continued discharge from blisters, I believe to be infinitely superior.

EPILEPSY.

This disease consists in a sudden deprivation of the senses; accompanied with a violent convulsive motion of the whole body. It attacks by fits, and after a certain time goes off; leaving the person in his usual state, excepting a sensation of languor and exhaustion.

If epilepsy appear to proceed from any suppressed discharge, it ought to be restored; when preceded by a costive habit, or worms, strong purges are requisite. If the person be of a full habit, bleeding from the arm should be tried, and also cupping the head and neck. The use of fox-glove in like cases, has been recommended. Opium on the approach of a fit, has frequently prevented it, or lessened its violence: and so have tight ligatures on the limbs. Tonic medicines have proved of service after the fit; particularly the metallic tonics of iron, lead, copper, tin, zinc, arsenic, and lunar caustic. Spirit of turpentine, in large doses on an empty stomach, has been highly extolled. The doses of these medicines are to be found under their respective heads: but it may be well to remark, that in this disease they should be of the largest quantity.

The same rule that is good with the intermittent fever, holds equally so with this and all periodical diseases. To prevent their recurrence, the whole system is to be *revolutionized*. At the time of the expected attack, more especially should the strongest action and reaction be roused. To plunge in the salt bath: to previously stimulate the body to a high degree: to excite violent vomiting: to irritate the skin from head to foot: to excite strong action in the lower bowels by irritating injections: to go through a course of mercury and sulphur, as well as occasionally to take the strongest tonics, in the largest doses; are means I would freely resort to, in order to carry fully into effect the great object of *revolutionizing* the body, in order to prevent the recurrence of dangerous periodical diseases.

When a fit comes on, every practicable attention should be given to prevent the patient from hurting himself. Rubbing the nose, temples, and pit of the stomach with ether, will tend to lessen the duration of the attack.

ST. VITUS DANCE.

This disease is an irregular and comical kind of convulsive action, affecting principally the arm and leg of one side. It is occasioned by irritations as from teething, worms, acrid matter in the bowels, poisons and violent affections of the mind. The fits discover themselves by a species of lameness; like that arising from palsy, and are sometimes preceded by coldness of the feet, pain in the left side, costiveness, lassitude, anxiety, affections of the head and teeth, and then come on the convulsive motions.

The disease is most common to boys and usually terminates at the age of puberty. When it arises from any cause operating on the bowels, it should be removed by vomits and purges, repeated. When it arises from a weak, irritable habit, tonic medicines should be given, and I would recommend the trial of all separately stated under that head. Electricity, galvanism, and cold bath, have severally proved serviceable. The bowels should always be kept open. Cupping the head and back, blisters kept discharging on the limbs affected, at the origin of the disease, have also been used with advantage. But Doctor Hamilton, a late writer, gives a decided preference to constant purging over all other remedies.

APPARENT DEATH.

In consequence of drowning, or a long exposure to the action of severe cold, and also of suffocation, and strangulation, a great check is often given to the vital principle without its being wholly extinguished.

It has been supposed that in the act of drowning, the water enters the lungs and completely fills them. This is not the fact; for unless the body lies so long in the water as entirely to extinguish life, the quantity of water in the lungs is inconsiderable.

In those cases where a person has been long exposed to severe cold, and is suffering from great numbness, a kind of intoxication comes on; he is apt to fall quickly asleep and become quite insensible. Occasionally he comes to himself without assistance, but more frequently he falls a sacrifice.

When a person dies from suffocation, the symptoms are nearly the same as in apoplexy. The symptoms which characterise strangulation are convulsive fits, in addition to the apoplectic symptoms.

Livid and dark spots on the face, with great rigidity and coldness of the body, a glassy appearance of the eyes, and a soft state of the skin, denote a perfect extinction of life: but the only sure sign is actual putrefaction—and therefore, in every case where this symptom is not present, and where we are unacquainted with the length of time the body may have been under water, every possible means should be employed, immediately upon its being found, for restoring life—as it may nevertheless still retain, in some degree its vital powers.

The following are the means to be employed for the recovery of persons recently drowned:—

As soon as the body is taken out of the water, it is to be speedily stripped of its wet clothes, wiped dry, and covered with a warm blanket. It is then to be carried to the nearest house, there to be laid between warm blankets, spread upon a mattress or low table, and on the right side in preference to the left, in order that the passage for the blood to the heart may be favoured by the position. The head is at the same time to be covered with a woollen cap, being properly elevated with pillows; and bags filled with warm sand, or hot bricks wrapped in flannel, are to be applied to the feet. The doors and windows of the apartment are to be thrown open, in order that

the cool air may be freely admitted, and no persons other than necessary assistants should be allowed to enter it.

You should next endeavour to expand the lungs, and make them if possible, reassume their office. When not furnished with a flexible tube made of elastic gum, or with the bellows invented by Hunter for this express purpose, you must blow in air by means of the common bellows; or by inserting a pipe into one nostril, compressing the other, shutting the person's mouth at the same time, and then blowing through the pipe with a considerable degree of force. By any of these means, you may be able to inflate the lungs.

At the same time that the lungs are inflated, you should rub every part of the body with warm flannel cloths. On all occasions, it will be proper to divide the assistants into two sets; the one in endeavouring to restore heat to the body, the other in instituting an artificial breathing in the manner just pointed out. Should the frictions not be attended with any effect, you ought to apply flannel cloths, wrung out in very hot water, over the heart and chest, or you may put the person in a very hot bath. A high degree of heat will not be necessary; a moderate degree will be sufficient. If the weather be under the freezing point, and the body when stripped feel cold, and nearly in the same condition with one that is frozen, it will be necessary at first to rub it well with snow, or wash it with cold water; the sudden application of heat in such cases having been found highly pernicious. In a short time, however, warmth must be gradually applied.

Hanging the patient by the heels, or rolling him over a barrel as is sometimes practised by the ignorant, under the mistaken idea of expelling the water from the stomach and lungs is most dangerous and only calculated to extinguish life if any remain.

When the patient is so far recovered as to be able to swallow, he should be put into a warm bed, with his head and shoulders properly elevated with pillows. Warm wine whey, or any other light and nourishing drink, should now be given in moderate quantities at a time, and a gentle perspiration pro-

noted by wrapping the feet and legs in flannels wrung out of hot water, with about an ounce of purgative salts dissolved in it, and a little oil may be administered.

The patient should on no account be left alone, until the senses are perfectly restored, and he is able to assist himself, as some persons have relapsed and been lost from the want of proper attention to them, after the vital functions were to all appearance tolerably established.

In cases where life has been suspended by hanging, the same means recommended for drowned persons are to be pursued, with the addition of opening the veins of the neck or cupping the neck, which will tend considerably to facilitate the restoration of life, by lessening the quantity of blood contained in the vessels of the head, and thereby, taking off the pressure from the brain. Except in persons of a full habit, the quantity drawn off need seldom exceed an ordinary tea cup full, which will in general, be sufficient to unload the vessels of the head without weakening the power of life.

The treatment to be adopted in cases of exposure to severe degrees of cold, should be as follows:

The person should be removed with all speed to a convenient place, where the necessary aid can be given. If the body is naked, it should be covered, leaving the head and face bare. If snow can be procured, the body may at first be gently rubbed with it, from the stomach to the extremities. In a few minutes afterwards, the frictions may be made with cloths steeped in cold water, the temperature of which is to be increased, so as to heat the body gradually and equally; the face may at the same time be sprinkled with water, the lips and nostrils may be irritated with a feather and volatile alkali, or some such stimulant. As soon as the body is restored to some degree of warmth, and the limbs become somewhat flexible, the person should be placed in a dry but not warm bed, and be well rubbed with flannel or a brush; his lungs may also be inflated, and an irritating clyster, such as rum, brandy or gin, and water, &c. be administered from time to time.

When the power of swallowing is restored, you should give the person some warm and gently stimulating drink; such as

thin broth with a little brandy in it, or water with some wine; which may be administered by a spoonful at a time.

For the sake of humanity, it is necessary to observe, that in all cases of sudden apparent death here treated of, the body should not be prematurely interred. In many cases, the unfortunate subject has thus been deprived of a life, which might by proper means have been preserved to him.

CRAMP IN THE STOMACH FROM DRINKING COLD WATER.

Dr. Rush says, three circumstances concur to produce disease or death from drinking cold water: First, the patient is extremely warm; second, the water is extremely cold; and third, a large quantity of it is suddenly taken into the body. The danger from drinking is in proportion to the degrees of combination which occur in the three circumstances mentioned.

In a few minutes after the patient has swallowed the water, he is affected by dimness of sight; he staggers in attempting to walk, and, unless supported, falls to the ground; he breathes with difficulty; a rattling is heard in his throat; his nostrils and cheeks expand and contract in every act of respiration; his face appears suffused with blood, and of a livid colour; his extremities become cold, and his pulse imperceptible: and unless relief be speedily obtained, the disease terminates in death in four or five minutes.

This is an account of the less common cases of the effects of drinking a large quantity of cold water when the body is preternaturally heated. More frequently the patient is seized with acute spasms in the breast and stomach. These spasms are so painful, as to produce fainting. In the intervals of the spasms, the patient appears to be perfectly well. The intervals between each spasm become longer or shorter, according as the disease tends to life or death.

It may not be improper to notice, that punch, beer, and even toddy, when drank under the same circumstances as cold water, have all been known to produce the same morbid and fatal effects.

The means to be tried for giving relief is strong stimulation, by large doses of *liquid laudanum*, ether, spirits, &c.; and, above all, it is necessary that the patient should not be permitted to remain for an instant in a recumbent posture; but should be kept in constant motion until relieved. The doses of laudanum, as in other cases of spasms, should be proportioned to the violence of the disease. From a tea to near a table spoonful has been given in some instances, before relief was obtained. Where the powers of life appear to be suddenly suspended, the same remedies should be used which have been so successfully employed in recovering persons supposed to be dead from drowning. Care should be taken in this, as in all cases of apparent death, to prevent the patient's suffering from being surrounded or attended by too many people.

Persons who have been recovered from the immediate danger which attends this disease, are sometimes affected, after it, by inflammations and obstructions in the stomach, breast, and liver. These generally yield to the usual remedies which are administered in those complaints, when they arise from other causes.

To prevent the fatal effects from drinking cold water, the following rules are given by the Doctor:

1. Grasp the vessel out of which you are about to drink, for a minute or longer, with both your hands. This will abstract a portion of heat from the body, and impart it at the same time to the cold liquor, provided the vessel be made of metal, glass, or earth; for heat follows the same laws, in many instances, in passing through bodies, with regard to its relative velocity, which we observe to take place in electricity.

2. If you are not furnished with a cup, and are obliged to drink by bringing your mouth in contact with the stream which issues from a pump, or a spring, always wash your hands, previously to your drinking, with a little of the cold water. By receiving the shock of the water first upon those parts of the body, a portion of its heat is conveyed away, and the vital parts are thereby defended from the action of the cold.

POISONS.

Poisons are of the Mineral, Vegetable, and Animal kinds. Mineral poisons are to be distinguished from vegetable ones by their action.

The former corrode, stimulate, or inflame; the latter generally stupify, and leave no mark of inflammation. None of the mineral poisons terminate life, till after a most excruciating operation of two or three hours at least; whereas some of the vegetable class, destroy it in a few minutes. From the animal poisons the destruction is as striking; for although in the plague, the mouth and throat are frequently affected in the same way, yet the local disease of the stomach is never present. The aerial poisons operate still more quickly than any of the other classes, and their action on respiration is so peculiar that it can never be mistaken.

In all cases where poisons are taken into the stomach, the first mean of relief to be used is, to evacuate the stomach by irritating the throat with a feather and giving a large dose of white vitriol, drinking freely of warm water.

It has been recommended, to introduce a catheter into the stomach and pump out the contents. This has in several instances been practised with success. It has also been recommended to inject a solution of three or four grains of tartar emetic into the veins to excite vomiting, also ten or twenty grains into the bowels.

Where an inflammation of the stomach and intestines is consequent upon taking poisons into the stomach, it should be treated in the same manner as any other inflammation. The whites of several eggs, beat up and given to the patient every half hour, is recommended where mineral poisons have been taken. Any mucilaginous drink will be proper.

BITES OF MAD DOGS, SNAKES, &c.

The most common time of the appearance of madness, from the bite of a mad dog, is from twenty to forty days after the bite; but in some cases, a few days only have elapsed previous to the symptoms shewing themselves. There are no well authenticated instances of the poison lying dormant longer than eleven or twelve months; and we may therefore consider a person pretty safe at the expiration of a year, without any symptom appearing.

The general symptoms attendant upon the bite of a mad dog, or other rabid animal, are: The part bitten, after some time begins to be painful; then come on wandering pains, with an uneasiness and heaviness, disturbed sleep and frightful dreams, accompanied with great restlessness, sudden starting and spasms, sighing, anxiety, and a love of solitude. These symptoms continuing to increase daily, the scar of the wound becomes hard and elevated, a peculiar tingling sensation is felt in the part, and pains begin to shoot from the place which was wounded up to the throat, with a straightness and sensation of choaking, and a horror and dread at the sight of water and other liquids. The patient is however capable of swallowing any solid substance with tolerable ease, but the moment any thing in a fluid form is brought in contact with the lips, it occasions him to start back with dread and horror, although he labours perhaps under great thirst at the time.

This appears to be a circumstance peculiar to the human race, for mad animals do not evince any dread at water. This madness when once manifested in the system, the power of medicine, and all human skill, have failed, in most instances to cure. Our views should be early directed to prevent the accession of the disease: and for this purpose, the most effective means are to cut out the wounded part and wash it freely. Immediately therefore on the infliction of the bite, or as soon after as possible, free washing with soap or lie should be prescribed—and it is to be continued until a physician can be had. On the arri-

val of the surgeon, the bitten part is to be freely taken away, care being had to carry the knife to a sufficient depth, so as to ensure its complete removal. Burning with a hot iron or the application of caustic, or mineral acids should be used, where a surgeon cannot readily be procured.

It has been recommended to excite a salivation in the patient, by administering corrosive sublimate—three grains, dissolved in one ounce of strong spirit; half of this mixture is to be taken undiluted at going to bed: it produces a copious salivation for almost an hour and a half. Some laxative medicine is to be taken the second day: and the dose of mercury repeated on the evening of the third day, to be followed in like manner by a second laxative.

It has sometimes been recommended to stimulate the patient freely after madness has come on, and sometimes to bleed and purge. But unfortunately the issue is almost in every case fatal. The chance rests on prevention.

When one is bitten by a venomous snake, the patient should instantly tie a bandage around the part, to retard the circulation. The part should then be either cut out, or destroyed by caustic. Soap lees and volatile alkali are highly extolled as a wash: and the volatile alkali should be taken internally. The internal use of opium is requisite when the pain is violent.

SCALDS AND BURNS.

In almost all cases of burns and scalds, there arises, soon after the infliction of the injury, a sense of coldness amounting to shivering. This commonly goes off; and in those cases where there is increased action alone, the symptoms of inflammatory fever come on. But when the injury has been more violent, when exhaustion has followed immoderate excitement, the shivering is severe and long continued, and seldom followed by reaction.

In all accidents from scalds and burns, it seems to be of the utmost importance to apply a remedy at the instant; for by this means the violent anguish is allayed, and blistering, which

in scalds, at least, is usually so considerable as to lay the foundation for a tedious curative process, is in a great degree prevented. Of the remedies most quickly to be procured on such occasions, plunging the part affected, without a moment's delay, into very cold water, to be frequently renewed, is the best. The transition from torture to ease, will be almost instantaneous.—Water is always at hand; and after proper immersions in it for a due length of time, it may be sufficient to cover the injured parts with linen rags, moistened therewith, blowing over them from time to time streams of air, by means of a small tube or bellows, until the sense of coldness is produced sufficiently.—By this simple process, a large piece of skin that has been burned to the appearance of charring, and surrounded by a high degree of inflammation, has been perfectly cured in the course of a very short time; no ulceration taking place, but the crust coming off dry, and leaving a sound surface underneath. Of late, the application of ice has been much recommended by a few practitioners of eminence.

It has long been the practice of St. Thomas's Hospital, in cases of burns and scalds, to smear the parts well with a feather dipped in mixture of olive oil three ounces, and lime water six ounces; but it seems a very inefficacious application; and I think it will be more adviseable to apply linen cloths, wetted with either cold water, or a solution of lead water, as long as the parts are heated, and inflamed. When the inflammation subsides, this mixture may be used, or we may employ the lead ointment spread on fine lint, as the dressing. Poul-tices of potatoes, carrots, turnips, &c. are frequently used with great success.

Dr. Kentish says, in cases where the skin is not destroyed but reddened, he has found nothing better for the first application than the heated oil of turpentine, or basilicum ointment thinned with the same. In superficial burns, where the pain has ceased, it will be adviseable to desist from this application in about four and twenty hours, as that time in many cases will be sufficient; and at the second dressing, a stimulating ointment, thinned with common oil, will be adequate to the cure; and on the third day begin with Turner's cerate or lead

ointment. He says that he has frequently seen secondary inflammation excited by the remedy, which in the first instance puzzled and perplexed him considerably: and, that he has been informed of this consequence by several gentlemen. The most certain remedy for this unpleasant symptom, is to apply a plaster of basilicum ointment thinned with oil, or a plaster of lead ointment, and over that a large warm poultice. Should there be much uneasiness of the system, anodynes proportioned to the age of the patient should be given.

Ether or rectified spirits, applied in such a manner as to favour its speedy evaporation, and thereby, the abstraction of heat, may be still more efficacious than the remedies mentioned. When there is no exposure from a separation of the skin, the æther or strong spirit somewhat diluted, may be evaporated from the skin by keeping a piece of thin linen cloth wetted therewith over the injured parts, and moistening it from time to time; but when the injured parts have been deprived of their natural skin, it will be adviseable to lay immediately over them a piece of thin bladder, and then the linen cloth, as before; keeping it continually moist by squeezing a cloth wetted with the evaporating liquid over it. As long as the pain and heat last, this process should be continued; but as soon as the inflammation is subdued, the process of evaporation should be discontinued, lest too great an abstraction of heat should be occasioned.

To alleviate pain and procure rest, in cases where the injury is extensive, as likewise, in those cases in which there is a severe shock given to the nervous system, as occasionally happens in injuries of this nature, it will be right to have recourse to opiates in such doses as shall be found sufficient to alleviate the severity of the pain and nervous irritation.

When feverish heat ensues, gentle laxatives should be given; such as salts, cream of tartar, &c.

If the parts become livid and black, so as to threaten the coming on of a mortification: then bark and wine, with the other means advised to give tone, must be resorted to.

Between the advocates for the adoption of a cooling treatment, and those who recommend a stimulating one, there

seems indeed a perfect opposition both in theory and practice. My opinion is, that the cooling treatment will be most advisable, while the sensation of heat and pain exists; but when these are removed, and symptoms of weakness occur, or when they primarily appear, the stimulant plan ought to have the preference. Remember the ointment is never to touch the sound parts.

Much certainly depends upon the constitutional variety of the subjects, as well as on the different stages or degrees of the accident. When no other inconvenience than a slight blistering of the injured parts is sustained, no remedy can be more aptly resorted to than the application of cold water; but when the skin is so burned that it is entirely destroyed, the parts are affected with severe blistering and pain, and there is at the same time but little reaction in the system, then the stimulant qualities of the turpentine application, supporting the powers of life at the same time with cordials and appropriate nourishment, will certainly be preferable—as the sedative effect of cold under such circumstances, might extinguish the vital principle.

The sores left by burns have some peculiarities. They shoot out *fungous*, or *proud flesh* as it is vulgarly called; they are difficult to heal: and when they do heal, contract so much as often to produce great deformity.

To arrest the growth of this *over-growing flesh*, sprinkle the part with powdered chalk which has been washed and dried, or burnt alum, or rhubarb, or apply lunar caustic.

It is very important that you should carefully prevent the coming together of parts that have been burnt, which ought not to be united. From neglect of this, great mischief has arisen. When, therefore, there is danger of this union, be sure to separate the parts by interposing plasters between them: and when the joints, as those of the fingers, are burnt, they should be kept in their natural state by splints and bandages.

The ordinary dressings for sores from burns, should be those of the most simple kind. The lead ointment will generally prove the best.

INVOLUNTARY DISCHARGES OF BLOOD.

The general object in these cases, is first to put a stop to the discharge of the blood; and second to prevent its recurrence, by removing the causes by which they were excited, and by correcting the inflammatory state of the system, when it exists. The particular means remain to be pointed out, under the subsequent heads.

BLEEDING AT THE NOSE.

In the nose there is a considerable net-work of blood-vessels, expanded on the internal surface of the nostrils, and covered only with a thin skin, and hence upon any determination of a greater quantity of blood, than ordinary to the vessels of the head, those of the nose are easily ruptured. In general the blood flows only from one nostril; but in some cases it is discharged from both.

Bleeding at the nose comes on at times without any previous warning, but at others it is preceded by a pain and heaviness in the head, ringing in the ears, flushing in the face, heat and itching in the nostrils, and a quickness of the pulse. In some instances a coldness of the feet, and shivering of the whole body, together with costiveness, precede this bleeding.

The complaint is seldom dangerous in young persons; but when it arises in those more advanced in life, flows profusely, and returns frequently, it indicates too great a fulness of the vessels in the head, and not unfrequently precedes apoplexy, palsy, &c. and therefore in such cases is to be regarded as a dangerous disease.

As a bleeding from the nose proves salutary in some disorders, such as giddiness and head ache: and is critical in others, such as phrenzy, apoplexy, and inflammatory fever, where there is a determination of too great a quantity of blood to the head; we ought properly to consider the circumstances under

which it happens, to decide whether it is really a disease or intended by nature to remove some other.

When it arises in the course of some inflammatory disorder, or in any other where we have reason to suspect too great a determination of blood to the head, we may suppose that it will prove critical, and therefore we should suffer it to go on, at least as long as the patient is not weakened by it.

Neither should it be suddenly stopped, when it happens to persons in good health, who are of a full habit. In short, where this bleeding relieves any disagreeable symptom, and does not proceed so far as to induce weakness, it ought not to be hastily checked. But when it arises in elderly people, or returns frequently, or continues till the patient becomes weak, it ought to be stopped as quickly as possible.

In cases of very full habit, it is sometimes proper to take blood from the arm. Persons subject to regular returns of it, ought before the expected time to undergo some evacuations and avoid all exciting causes: as strong passions, stimulating drinks, and holding down the head. Very effectual and common means of stopping it, are to bathe the head in cold water, and to set in a tub of the same, which produces a general constriction of the vessels. Ice or iron to the back will be good. Powdered charcoal taken as snuff, will often relieve; it may also be put up the nose by dipping a wet rag in the powder and pushing it up the nose. Sometimes a small gut pushed up to the further part of the nose by a probe or wire, with the end of the gut tied; when the end hanging out is to be filled with cold water, by means of a syringe, so as to produce compression on the bleeding vessels; where it is to remain for some time, will relieve.

I have injected up the nose, a strong solution of sugar of lead with success: also, alum water. The drink, in such cases, should be cold water with a little of elixir vitriol.

The only certain remedy is mechanical: it is to push a wire through the nose and pull it out at the mouth: when to its end, a small piece of sponge is to be attached, which is then to be pulled up to the back of the nose: this will close the orifice behind, and that in front is to be closed with the finger.

SPITTING OF BLOOD.

This is a more alarming discharge of blood than that from the nose; but is almost equally under the control of art; it often arises from the same causes, and is to be treated in many instances in a similar way.

The discharge is of a bright red colour, brought up by hawking and spitting, frequently preceded by a saltish taste in the mouth, a sense of heaviness about the heart, difficult and painful breathing, and dry, tickling cough. It differs from blood brought from the stomach, for that from the latter is of a more dark and coagulated appearance. It most commonly occurs at ages from fifteen to thirty, and may be occasioned by any violent action of body or mind: by the suppression of accustomed evacuations: by a rarified air; and most frequently takes place in persons of long necks and narrow chests: often in families subject to similar complaints. It is seldom fatal; and only so, when a large blood-vessel has bursted.

If the patient be feverish and of full habit, bleeding, rest, purges of salts, and cold air, are requisite. Setting in a tub of cold water, has sometimes arrested the discharge. The medicines under the head of astringents, to which I refer, have been separately recommended. Dr. Rush recommends taking one or two table spoonfuls of salt. The tincture of fox-glove, has often been judiciously administered in small doses, repeated three or four times a day. The sugar of lead in doses of one or two grains is a powerful remedy: it is to be repeated every three or four hours. Blisters to the chest have been recommended. I have used ligatures around the limbs with great advantage. Cupping freely the chest and limbs, I should prefer to blisters.

When the bleeding ceases, the greatest care is requisite to prevent its recurrence. The means of doing so may be summed up in a few words: determine the blood to other parts. Ride on horse back: have the skin frequently cupped and rubbed: take exercise which requires a free use of the arms. Live

rather on a spare than full diet; and carefully guard against exposure to cold and moisture, or any thing producing colds; and avoid much talking.

VOMITING OF BLOOD.

This is usually preceded by a sense of heaviness, and pain about the stomach; it is unaccompanied by cough. The discharge is of a dark colour; and is occasioned by suppressed evacuations, affections of the liver, and from blows, and irritating matter, in the stomach. The treatment is the same as in other discharges of blood; reduce the system by bleeding, if it be vigorous; cold drinks will be proper. In cases resisting such treatment, small doses of the sugar of lead, may be necessary; ten or twenty drops of the muriated tincture of iron, in water, is supposed to be the best medicine to stop the mouths of the bleeding vessels of the stomach. Dr. Hamilton recommends free purging, in the cases of females, who have vomiting of blood attended with a suppression of the menses. The application of a blister to the belly has been recommended. A dose of powdered charcoal is a good remedy. Cold applications over the stomach for a short time may prove of service: and so may injections of cold water in the bowels. The diet, after this discharge, should be of the least bulky or irritating nature: nutritious, mild jellies; milk, and the like,—without spices or spirit.

VOIDING OF BLOOD WITH URINE.

This disease often arises from a stone in the parts concerned in the preparation of urine. When the stone cannot be removed, the pain will be lessened by drinking plentifully of those drinks called mucilaginous, or *slimy*, which I have so often enumerated.

It is also occasioned by falls, blows, bruises about the belly, hard riding, jumping, &c. When the person affected is of full

habit, bleeding is requisite in proportion to strength. Purges of salts are recommended, and small doses of nitre every two or three hours. Should it continue, doses of the oak bark, of alum, of gum thino, lastly of sugar of lead, should be given.—When the pain is violent, from whatever cause the bleeding arises, doses of laudanum may be administered. The plant called *uva ursi*, is recommended, in doses repeated two or three times a day. A pint of a strong decoction of peach leaves, made by boiling an ounce and a half of the dried leaves in a quart of water to a pint and a half, and given throughout the day, is stated on good authority to have effected a perfect cure when other remedies failed. Whatever may be the cause of the bleeding, the warm bath is to be tried, and drinks of the mild mucilaginous kind continued.

VOMITING AND PURGING.

This disease, called *Cholera Morbus*, is marked by a frequent and violent discharge from the stomach and bowels, of a dark, bilious looking matter. It is usually brought on by eating uncommon food, rancid meats, crabs, tainted fish, and sometimes by over-doses of medicine. It comes on with sickness at stomach, soreness and distention of bowels, painful griping, flatulency, heat, thirst, quick respiration, and a frequent and fluttering pulse.—In the worst cases, clammy sweats, cramp and coldness in the extremities, irregularity in the pulse, hiccup; speedily terminating in death.

The cure is to be attempted by giving large doses of laudanum—to be repeated although thrown up. A watery solution of opium, is sometimes better; repeated injections of the same, are to be tried: as also injections of starch, and of sugar of lead, as this last tends to restrain action. Cloths dipped in hot water, in spirit, in spirit of camphor, or red pepper, are to be applied repeatedly to the breast and belly. Applications of hot bricks or bottles of water, are to be made to the feet. A blister over the stomach, of mustard powder: or better of Spanish flies boiled with oil of turpentine, because quicker in ope-

rating. In case of great danger, I would scald the part. In this dreadful disease, many articles are to be tried. Chicken water; doses of elixir vitriol, columbo root, chalk, the saline mixture, lime water, hot toddy, spiced wine, porter, have severally afforded relief when other means failed: and so have strong decoctions and tinctures of all our spices and essential oils, particularly of peppermint, of cinnamon, and aniseed. In the worst cases, I would bathe the whole body with spirit, impregnated with red pepper, or with spirit of hartshorn.

Should the patient recover, the tonics and strengthening medicines are to be given in small doses, though not when there is danger of their irritating the bowels. The diet should be of the most nutritious jellies, and broths well seasoned. He should have his skin well rubbed every night and morning: wear flannel next his skin, and abstain from all things to which he is not habituated; carefully avoiding exposure to a cold, damp air.

In attacks of this disease, of a mild degree, it is best to begin the treatment by giving a dose of calomel, to evacuate the bowels and to operate as a stimulus, to relieve their disordered action. In cases where the disease is a symptom only of high fever, the patient must be bled, the calomel repeated, and those stomachics given which are not of a heating nature; in short, to be treated as for fever.

DYSENTERY, OR FLUX.

This is an inflammation of the inner coat of the bowels, accompanied with severe griping, frequent inclination to go to stool, and some degree of fever. The stools, though frequent, are small in quantity—not of a natural state, but consisting principally of mucus, sometimes streaked with blood. When the natural evacuations do appear, they are usually in the shape of small, compact and hard substances, resembling irregular balls.

This disease is most prevalent in warm countries, about the autumn, and when the system is rendered irritable by the great

heats of summer and then suddenly exposed to cold or moisture. When the inflammation begins to occupy the lower part of the bowels, the stools become more frequent and less abundant, and in passing through the inflamed parts, they occasion great pain and griping; there is then great rumbling, and unusual flatulency in the bowels. The motions vary considerably; being sometimes composed of frothy mucus, streaked with blood: at others, of acrid, watery matter, like the washings of meat, and very offensive to the smell. Sometimes pure blood is voided: then lumps of mucus, resembling bits of cheese, and lastly common matter. It sometimes happens that in the violent straining, parts of the bowels are protruded, and become a source of increased suffering.

For the cure of dysentery, it is all-important not to neglect it in the beginning. In the first stage, if the patient be young and of a full habit of body, early blood-letting is proper. In general, the cure may be commenced with an emetic, followed by one or two purges of calomel. Some antimonial medicine, as cerated glass of antimony, golden sulphur of antimony, or tartar emetic, all in small doses every two hours, to keep up a determination to the skin, is very proper. The purging should be repeated, with castor or olive oil, day after day. When the discharges from the bowels are offensive, prepared chalk, in doses of two tea spoonfuls, should be given. Injections of cold mucilaginous liquid in the bowels, will prove serviceable. I have frequently had injected, with great advantage, five grains of sugar of lead in a pint of water. In cases of violent pain, the region of the stomach should be bathed with laudanum and spirit of camphor, and cloths from hot water constantly applied over the belly. A blister over the stomach, will tend to relieve the internal inflammation. When the belly is hard and sore to the touch, it should be well bathed with olive oil—if not to be had, with common fat; flannels taken from a hot watery solution of opium and applied to the part, will render service. The general warm bath is highly recommended: and while in it, the skin should be well rubbed.

The drinks should be of the mildest and most mucilaginous kind. Slipery elm bark tea: flax, quince, and melon seed tea:

the root of the cat-tail plant of our marshes, gum arabic, cherry or peach tree gum in solution, arrow root, &c. are to be given freely. Injections of the same should be given, and the patient should not frequently indulge the desire to go to stool, as it increases the disease.

At the commencement of dysentery, it would be improper to give opiates, or astringents; but after the inflammatory symptoms have subsided, these medicines may be judiciously given; taking care still to keep the bowels moderately open. The introduction into the fundament of three or four grains of opium in a pill, will often allay the irritation of the lower gut, which is apt to continue troublesome. When the inflammatory action subsides, the disease is to be treated pretty much as diarrhœa or looseness—to which I refer you. When the liver in these cases is affected, as is often the case, a course of mercury or nitric acid, will be serviceable—together with frictions of the skin, wearing flannel next to it, and exercise on horseback.

CONTINUED LAX, OR LOOSENESS OF THE BOWELS.

This complaint, called technically *Diarrhœa*, is a too frequent discharge of matter from the bowels, in consequence of their increased motion and secretion. The appearance of the stools, is very various: being sometimes thick, thin, slimy, whitish, yellow, green, dark, brown, &c. Each discharge is usually preceded by a sense of weight in the lower part of the belly and the motion of wind in the bowels, which are relieved by the evacuation for the time. The disease is unattended with fever, and is no way contagious. It may be considered as a consumption of the bowels. It most frequently occurs in elderly persons: and in those who have been intemperate, or exposed to any cause disordering the liver.

The immediate cause of this affection of the bowels, is generally exposure of the skin to continued cold: or to some matter disagreeing with the stomach and bowels, as worms, bad food and drink.

The treatment, as in all other cases, must depend on the state of the system. When in persons of full habit, bleeding is proper: and I have known it to be repeated with advantage. I would not undertake to recommend the practice; but I have sometimes, with advantage, given a large dose of calomel: which purging freely, has emptied the secreting vessels and left them in a quiescent state. But the general practice is to commence the treatment by giving a vomit: which acting on the stomach, diverts the action from the lower part of the bowels. When griping attends this disease, applications of hot, wet cloths, should be made to the belly.

When the disease arises from suppressed perspiration, this is to be restored by the general hot bath: and when in it, the patient is to be well rubbed from head to foot, and take one grain of tartar emetic, to aid in determining to the skin.—When it arises from worms, it is only to be relieved by their expulsion; and the same, if from any other matter in the bowels.

But the disease often seems to proceed from no visible cause, and gradually consumes the patient. In this case, we treat it as an original disease: we have to pay great attention to the quality of the contents of the bowels, as well as to prescribe solely to correct their diseased action.

When any thing sour or offensive, is perceived in the stomach, or in the discharges from the bowels, a tea spoonful of prepared chalk in a little milk or mucilage, should be given twice or thrice a day, with the addition of a little of the essential oils, either of peppermint, cinnamon, or aniseed: particularly if there be much sense of weakness of the stomach. The mild alkalis of potash or soda, are equally good, and common ley is of the same kind. Lime water has occasionally afforded some relief. Opium may frequently be given with advantage. In the weakened state of the system, either and all of the astringent medicines are to be tried successively. The best, I believe to be very small doses of sugar of lead, if it does not gripe, and a decoction of the due-berry root. But remember, that the bowels are not to be made costive: an evacuation must be had every day; and when they are much enfeebled, you are

to resort to a temperate use of tonics: rust of iron and the oak bark, I would prefer. A large flannel roller around the belly, so as moderately to compress and support it, has often rendered essential service.

Pure port wine, or French brandy and water, in the weakened state of this disease, may be taken in moderation. Jellies and rich soup, made palatable, afford a good nourishment.—Care should be taken to avoid all articles to which the patient is not accustomed, and all exposure to cold; and he will find great relief from the daily hard rubbing of the skin, and no less from having his belly and side, over the liver, very frequently dry cupped.

When the disease of the liver is supposed to cause the looseness, the remedies under that head are of course to be applied.

COMMON COLIC.

This is a painful distention of the whole of the lower part of the belly, with a sense of twisting and boring, about the navel particularly, and all the parts feel as if tightly bound and compressed. It is often accompanied with vomiting, costiveness, and a contraction of the muscles of the belly. It does not usually come on with fever; but should it continue, fever is sure to ensue.

The disease is produced by various causes, particularly indigestible food—that which the person is unaccustomed to: by costiveness, an acrid or putrid state of the contents of the bowels, worms, metallic poisons, fermented liquors giving up their fixed air, checked perspiration, &c.

When the colic arises simply from wind in the bowels, the carminative medicines afford relief. Fennel seed tea, volatile alkali, calamus root chewed, a drink of toddy, a dose of peppermint, the same of aniseed oil, tight pressure on the belly, forcing a stool by an injection or introducing a piece of soap up the anus, and such common means, afford relief.

But when the disease arises from great costiveness, and is attended with inflammation, vomiting of bilious matter, those

means of cure are very improper. The bilious colic is attended with vomiting of bile, (ascertained by its bitter taste in the mouth) loss of appetite, feverish heat, great thirst, soreness of the belly, griping, &c.

In the worst degrees of this disease, there is an inversion of the motion of the bowels: and instead of discharging their contents downwards, the excrement is vomited upwards; constituting an almost incurable disease, called the *Iliac Passion*.

In all cases where the strength of the patient will allow of it, bleeding, and that freely, is an essential remedy. A large dose of calomel should be given, followed by doses of salts and other purgatives, until there is a free discharge from the bowels. One of the best remedies, is the injection up the bowels of ten or twelve grains of tartar emetic. Cold water should be poured on the belly, if two or three doses of the purgatives do not operate. An injection of a decoction of tobacco, made by putting a drachm in a pint of a hot water, has removed the spasm; I should prefer applying to the belly a stronger decoction, by cloths; sometimes a little of it has been given through the mouth with advantage. Very frequently calomel has afforded immediate relief, when given with a large dose of opium.

When the pain is violent, the patient's belly should be well bathed in olive oil, and wet hot cloths should be kept constantly on it. He ought to go in the warm bath, and stay there as long as he can.

For the incessant vomiting, I have no other directions to give than a successive trial of every article mentioned under the head of stomachics.

Those subject to colic, should be very particular in their diet; avoiding all articles tending to produce flatulency: abstaining from food to which they are unaccustomed, and from liquors containing fixed air. Above all, they should avoid costiveness by having regular evacuations from their bowels, which can always be done by going to the necessary at stated times, and introducing up the anus some slippery body to irritate the bowels to action.

DRY BELLY ACHE.

This is another kind of colic, arising from mineral poisons, such as lead. Though somewhat like the common kind, it has some peculiarities. It comes on with severe pains about the navel, which shoot with great violence from side to side, and with convulsive spasms in the bowels and muscles of the belly, with a strong tendency to palsy in the lower extremities. The pains, from the pit of the stomach, extend downwards towards the intestines, particularly around the navel, accompanied with belching, sickness at stomach, obstinate costiveness, a frequent but ineffectual desire to evacuate the bowels. After a short time, the pains increase in violence; the wholly belly is highly painful to the touch, and is contracted into hard and irregular knots or lumps, and the bowels are so contracted with spasm as to render it difficult to give a glyster. The retraction of the belly, the bent position of the body, and the palsied and drooping hand, are the characteristics of this colic.

When the symptoms are so violent as to endanger inflammation in the intestines, bleeding will be adviseable, which should be done freely, according to the state of the patient. Next hot, wet cloths, or other fomentations, should be applied to the belly; the general warm bath; large doses of opium, with calomel, may be given, to aid in overcoming the spasm. Throwing cold water on the belly, has sometimes afforded relief, by expediting the operation of the purgatives. When these means fail, it is customary to give clysters of laudanum, or tobacco. Sometimes a very little of the tincture of tobacco may be taken internally. Relief has been obtained by bathing the belly in laudanum; and to it I would most strongly recommend the application of a decoction of tobacco. As soon as the spasms relax, and the stomach is somewhat composed, some mild purgative medicine should be given, and repeated until it operates.

Flannel next the skin, and the daily use of the flesh brush and bathing in warm water, are good preventives. Alum, in doses of fifteen grains, repeated every fourth hour, has been recommended in slight cases.

In cases of palsy following this disease, when brought on by lead, a mercurial course is recommended. And lunar caustic, in doses of one or two grains rubbed up with bread as large as a marble, has been frequently given with advantage.

AFFECTIONS ABOUT THE FUNDAMENT.

PILES.

This is a disease which almost every one has at times; varying in degree, from moderate inflammation of the fundament, to the formation of tumours. In the beginning, the anus and its edges, have their sensibility greatly increased: there is a sense of soreness, a feel as if innumerable sharp points were perforating the parts. There is generally an increase of the secretion of the mucus of the part, erroneously supposed the cause of the complaint, as its seat is in the hard parts, the fibres and vessels. Sometimes the inflammation increases considerably, as does the swelling; which often terminates in tumours of a dark colour, which bursting, discharge a dark blood, that affords present relief. At other times, the pain extends up the gut, constituting what is called the blind piles. The disease is apt to be attended with fever, and to return at intervals. It is sometimes accompanied with an affection of the liver, and with such profuse discharges of blood, as to require the application of cold water, of lead water, and other astringents to arrest it.

The prevention of this loathsome disease is ensured, as certainly as that you exist, by daily washing the fundament in cold water, especially after every evacuation from the bowels. When, from riding or walking, there appears to be an increased feeling in the part, there should be an immediate resort to the use of water. I never knew or heard of one person who ever had the piles, who took the trouble of using this cleanly ablution.

The cure of piles may generally be effected by the hourly application of cold water, made more so by ice; particularly if aided by abstinence in eating and drinking, and rest. When the disease is considerable, it is best to apply a solution of sugar of lead, a tea spoonful to the pint of water, and to keep a rag wet with it constantly on the inflamed parts. I have seen the most distressing cases of it cured by cold water alone; much sooner than by the old modes, with nut galls, alum and supposed astringents. In cases attended with fever, you should bleed, and purge with salts, oil, or calomel, to be repeated until the fever and inflammation subside.

When the pain is violent, in addition to the iced and lead water, sweet oil should be applied: mild mercurial ointment is also proper. Bathing the part in a watery solution of opium, or laudanum and water; setting over a tub of hot water, in which there is a heated stone to expedite the generation of steam; an ointment of the Jamestown weed, and common lead ointment, have generally afforded great relief. When the pain is up in the bowels, more evacuations are proper than in the other cases; but above all, inject freely, every hour or two, cold water. If the pain be great, add two grains of sugar of lead to each injection. The disease in those persons who have been intemperate, or have any affection of the liver; can only be effectually cured, by going through a course of mercury, or nitric acid. All persons who have had the piles for a length of time should be very cautious about their entire suppression. It should not be done unless the person occasionally substitute some other irritation, as an issue, or blister on the small of the back. He should live low, take much exercise, occasionally a vomit and purge; and always keep the bowels open. These are requisite: as the system when quickly deprived of all such powerful irritations, is very apt to be violently affected in other parts: ending, as I have known it to do, in convulsions apoplexy and sudden death. Proper attention to evacuations may save you from much suffering, if not premature death.

WARTS.

The parts about the fundament are very subject to warts or tumours, particularly among those who do not sit daily in cold water. When they grow to any considerable size, it is best to tie a small string tightly round each at its origin, or to cut them off with a sharp pair of scissors. As there is no danger in the operation, (though painful,) any one may perform it. The parts should be bathed in lead water, as above, after the operation, and mild mercurial ointment applied to the sores until cured. Free washing will prevent the recurrence of these tumours. Sometimes these tumours have been dispersed by pouring cold water from a height through a spout on the part. Mercurial ointment has also caused their absorption, and compression by a ball of cotton covered with sheet lead.

BOILS AND FISTULAS.

No part of the system is more subject to inflammation than the fundament; and when inflamed, to degenerate into fistulas, which are running sores through long inflamed passages or canals, formed for the passage of matter. The number of men and women who daily die in the United States, from neglecting these affections at their commencement, is in reality almost incredible, and should act as a warning to you to avoid the like evil. I would have every one affected with the slightest inflammation in this part, to have in view, until the cure be completed, the most distressing termination, in order that in good earnest attention be given to the subject.

These inflammations are certainly to be prevented by frequent washing in cold water, and daily evacuating the bowels.

The cure is to be effected by cold applications. An hourly application of the coldest water of ice, with abstemious diet, and perfect rest, will be sufficient to relieve lesser degrees of these affections. But when these remedies have been neglect-

ed, or when the inflammation still increases, the patient should be bled freely, should be cupped near the part, to which leeches should be applied; immediately after, rags wet with lead water should be applied, and removed every hour or two. If this do not prevent the boil from forming matter, (called *coming to a head*, or suppuration) then a poultice may be kept on it, of any oily moist article. The moment the matter appears to be formed, and coming to a point, it should be lanced, cut straight in the direction to the anus, the orifice just large enough to allow the passage of the matter. The lancet may safely go half an inch deep: needles have been used for these boils by some, when the matter appeared to be near the surface. The best instrument, giving least pain, is the common spring lancet, for opening all boils. After the opening, and the passage of the matter, a poultice of milk and bread should be applied; I have used these made wet with lead water, with advantage. It is by subduing the inflammation of these boils, by evacuations and cold applications,—remedies which the most ignorant can resort to with safety—that the formation of fistulas is prevented. The cold washes are to be continued some time after the cure, to prevent returns, to which the parts are generally much disposed.

EXCORIATIONS.

Those taking much exercise, by walking or riding, are very apt to have their skin rubbed off, particularly about the buttox and thighs. The best remedy I have ever seen tried is cold water. It is proper after washing to apply some oily substance; tallow or hogs' lard answers very well. The moment one feels any part increasing in sensibility, the cold water should be applied as a preventive; sugar of lead water would prove of more service; a little lead ointment, common tallow, or suet, are of service in sheathing the part from the irritation occasioned by the air on the chaffed part, and so will be starch in powder.

INFLAMMATORY SORE THROAT;

OR, QUINSEY.

In this complaint, the parts in and about the throat become so inflamed as essentially to interrupt the speech, breathing, and swallowing of the patient. Generally the strength of the patient is not lessened, as in that of malignant sore throat. The swelling, pulse and inflammatory symptoms run high, often threatening immediate death from the exclusion of air.

The causes which usually give rise to it, are exposure to cold, either from sudden vicissitudes of weather, from being placed in a partial current of air, wearing damp linen, sitting in wet rooms, or getting the feet wet, or coming out of a heated and crowded room suddenly into the open and cool air; all of which may give a sudden check to perspiration. It may also be occasioned by violent exertions of the voice, blowing wind instruments, acrid substances irritating the back of the throat, and by the suppression of accustomed evacuations. It principally attacks the young and those of a full habit: and is chiefly confined to cold and changeable climates, occurring usually in the spring and autumn. It is never contagious.—But in many people there seems to be a particular tendency to the disease, as from inconsiderable causes it is often induced.

An inflammatory sore throat discovers itself by a difficulty of swallowing and breathing, accompanied by a redness and swelling of the parts on one or each side of the back of the throat, by dryness of the mouth, foulness of the tongue, pains in the parts, hoarseness of the voice, a frequency of attempt, but difficulty, in spitting mucus, and some degree of fever. As the disease advances, the difficulty of swallowing and breathing become greater, the speech is very indistinct, the dryness of the throat and the thirst increase, the tongue swells and is covered with a dark fur, and the pulse is full, hard and frequent, as in all inflammatory fever. In a few cases, small white sloughy spots are to be observed on the parts back of the

throat, and there is sometimes complete deafness. When these symptoms are considerable, the eyes become inflamed and the face swelled and florid; breathing is performed with difficulty, and the patient is obliged to be supported in nearly an erect posture, to prevent suffocation. Delirium and stupefaction sometimes come on. If the inflammation proceeds to such a height as to put a total stop to breathing, the face will become livid, and the patient quickly die, unless relieved.

The chief danger arising from this species of quinsy, is the swelling, producing suffocation, and preventing a sufficient quantity of nourishment from being taken. When proper steps are early taken, the inflammatory swelling will readily go off by absorption or formation of matter.

When matter is likely to ensue, the parts affected become more pale and less painful, a sense of pulsation is felt in them, and there are slight shiverings. The matter when formed passes either into the stomach and affords a sudden relief, or into the mouth and is spit out of a very clotted appearance, often mixed with blood of a nauseating bitter taste, and bad smell. The relief experienced by the discharge, is often very remarkable from its suddenness; for the person who a few minutes before, was not able to swallow the smallest quantity of any thing, and who breathed with great difficulty, now feels perfect ease, and is able to eat and drink heartily. Sometimes, however, the disease does not terminate in this manner; but in several small boils, which produce trifling superficial sores, being of a white or gray colour, similar to the thrush. But when the matter is formed, it ought to be instantly discharged by opening the part with a lancet: one of the common kind will answer if fixed to a longer and steady immoveable handle.

In the treatment of this complaint, our first and chief endeavour should be to carry off the inflammation; for which, if the inflammatory symptoms run high, the pulse be quick and hard, and the breathing difficult, copious and repeated bleeding should be had recourse to, and cupping, or the application of leeches to the throat, particularly on the side most affected.—Drawing blood from the parts of the mouth enlarged, by scari-

fications, is likewise a powerful remedy: and, when employed with freedom on its first appearance, will greatly lessen the inflammation and prevent the formation of matter. At the beginning of this disease, and before the fever comes on in great degree, the early giving a vomit often proves extremely useful, and now and then checks its complete formation. Strong purgatives of calomel and jalap, or salts, should be given, to assist in removing the inflammation; and they are to be repeated as long as it lasts.

In cases where the swelling in the throat is considerable, the early application of a blister round the throat, and to the back of the neck, will be attended with a good effect; but in slight cases, it will be sufficient to have these parts rubbed twice or thrice a day with volatile linament, or hartshorn; keeping a flannel round the throat.

The mouth and back of the throat, are to be washed with lead water, or any of the cooling astringent gargles; gargling is the best mode of washing the inside of the throat: but its motion is sometimes so painful and irksome, as to prevent the patient from having recourse to it. In such cases, the medicine may be thrown in by means of a syringe.

Frequently inhaling the vapour arising from boiling water mixed with vinegar, throughout the course of the day, will greatly assist the effects of gargles.

I repeat that in this and all affections of the throat, the danger is not so much from the nature of the disease, as from the risk of suffocation. It therefore calls for the most energetic and prompt attention.

MUMPS.

This disease chiefly affects children, and is often epidemic and contagious. It is distinguished by an external moveable swelling, that appears most commonly on both sides of the neck, but in some instances is confined to one. These tumours occupy the glands about the throat; are large, hard, and somewhat painful; and sometimes they attain to such a considerable

size, as greatly to impede breathing and swallowing: thereby giving rise to fever. The swelling usually increases till the fourth day: but then declines, and in a few days goes off entirely; when the febrile disposition likewise ceases. Sometimes as the swelling of the throat subsides, it happens that tumours affect the testicles in the male sex, or breasts in the female: but these generally go away in a few days. Sometimes the tumour in the throat becomes suddenly suppressed, and is not accompanied with the last mentioned symptom; or if so, this is quickly repressed; when the fever becomes very considerable, and occasionally ends in delirium and death.

In a few instances, where the swelling has been considerable, matter has been formed in the parts, and occasioned great deformity; sometimes it has bursted inside, and discharging its contents on the wind-pipe, has suffocated the patient.

However, there is seldom much danger from this disease: and it does not often require the assistance of medicine. All that is in general requisite, is to keep the head and face warm, and to avoid taking cold, and to open the bowels by gentle laxatives of salts and oils. But should the tumour in the neck suddenly disappear, and the feverish symptoms increase, so as to induce an apprehension that the brain will be affected; it will be adviseable to promote and reproduce the swelling, by applying warm water, poultices, and the volatile linament, harts-horn and the like, to the throat. To prevent the consequences that might ensue in this case, bleeding, purging, small doses of emetic tartar, with blisters on the breast, are requisite, in proportion to the violence of the disease.

When the testicles become much affected and swelled, every endeavour should be exerted to prevent the formation of matter. You are to bleed in the arm, or over the testicle to apply leeches: to purge freely, and apply to the testicles solutions of lead water; a bag or bandage is to be applied, so as to suspend the testicles. Similar means are to be pursued when, on a retrocession of the tumours in the neck, the female breast becomes hardened and swelled, endangering the formation of matter.

PUTRID SORE THROAT.

The term putrid may with some propriety be attached to this complaint; as the discharge from the sore back of the throat is really of a most offensive and putrid nature, sometimes attended with an actual mortification of the part. It is usually accompanied with a fever of low action, called nervous. It generally comes on with a sense of giddiness and shivering; followed by great heat, attended with pains in the head, soreness of the throat, stiffness about the neck, sickness of the stomach, with vomiting and occasional delirium. The back parts of the throat will be found, on examination, to be swelled; of a deep red colour; and sometime after there will be white or ash coloured spots, soon terminating in deep, foul sores, in proportion to the disease. In three or four days, a red eruption is generally thrown out, first on the face and neck, then over the whole body.

In the commencement of this affection, if the system be in any degree inflammatory, a loss of blood from the arm, at least in small quantity, leeches applied to the throat, cupping about the neck, then warm flannels, also purgatives, will be proper. In general cases, a vomit ought first to be given. Gargles to wash the throat, should early be resorted to. Sweet oil alone forms an excellent one; a weak solution of sugar of lead is another; also, one of white vitriol, or alum. When the sores are formed, a decoction of oak or of Peruvian bark, with or without a little port or claret wine, are to be substituted. In some instances, where this disease has been very prevalent in the West Indies and other parts, a strong decoction of red pepper has been used with great advantage, even in the case of children. Dr. Thomas, of whose book I have constantly made such a free use, speaks highly of a mixture of two table spoons of red pepper, with a tea spoon of salt, in half a pint of boiling water, to which is to be added as much vinegar; this, after standing about half an hour, is to be strained, and two table spoon-

fuls given in about every half hour. A gargle made of yeast and finely powdered charcoál, will prove of great service.

While steadily keeping in view the condition and the remedies for the throat, you must not be less careful of the general state of the system. After its inflammatory state, if it did exist, subsides, then it will be of the low, nervous cast; requiring the same treatment of tonics, stimulants, purification of bowels, as is recommended for low fevers, to which I refer you for the kind and doses.

SCARLET FEVER.

This disease is supposed to be the same as that just described, the *putrid sore throat*; at least, in some of its varieties, there is no difference between the two. However, this is of no consequence, as our prescriptions are never for the names of diseases, but the state of the body. There is but little question but that it is a contagious disease. It prevails most at the close of summer.

It commences, like most fevers, with chilliness, and irregularities in the pulse, and breathing with great weakness. It is sometimes marked by inflammation of the back of the throat, with great soreness, and always there is considerable redness in the part. About the fourth day of the disease, the face becomes a little swelled; spots of a florid colour appear over the skin, which gradually unite; and about three days more, they disappear, and the upper surface of the skin comes off in scales of a mealy sort of appearance. It is sometimes followed by a slight dropsical swelling on the skin. The disease has a strong resemblance to the measles; but differs in the absence of much cough; its eruptions are less distinct, and appear on the second day, and the skin is of a more vivid red; the eye is not watery, and there is no sneezing, or running at the nose,—at least, very little.

In the mild stages of this fever, there is no danger; and it generally terminates in six or seven days, by the falling of the scales from the skin, and a gentle perspiration: and the patient

is gradually restored to health and strength. But in its more malignant forms, it degenerates into the low, nervous fever, and is very apt to prove fatal.

The treatment should be commenced by giving one or two vomits on the first and second days of the attack; to be followed by keeping the bowels regularly open with small doses of magnesia, or neutral salts. The patient should be kept in a cool and quiet state, and may drink any article of a light kind, that is not stimulating; and if his throat be sore, it should be gargled with those articles directed for the putrid sore throat.

In severe cases, when the skin is very hot and dry, the pulse much quickened, the head painful, the most speedy and effectual remedy is the application of cold water to the whole of the body. There is no question, from the statement of so many respectable physicians, that it is a powerful remedy and ought always to be applied. It is recommended to throw several gallons of the coldest water over the whole body, then wipe it dry and return it to bed. Small doses of a solution of tartar, may then be given; and generally a perspiration follows, which terminates the disorder without any discoloration of the skin.—When it is inconvenient to have the water thrown on the body, cloths dipped in it and applied to the body, or, as it is called, sponged all over, will make a good substitute. It is to be remembered, however, that cold applications are improper when there is any shivering, and when the system is very much reduced, so that there is no power to react.

When the fever degenerates completely into the low, nervous state, the remedies are the same as in putrid sore throat, to which you are referred.—Though I do not think it amiss to repeat—again and again—let your stimulants be of the common kind; as wines, porter, toddy, laudanum, and generous diet.—Let them be given in moderation. Never let the contents of the bowels stagnate, nor become offensive; to prevent which, have them opened once a day, and give prepared chalk, or yeast, with or without charcoal: and always endeavour to relieve any part appearing particularly affected, by cupping—freely and daily repeated. It is infinitely preferable to blisters, though they may be often requisite.

AFFECTIONS OF THE EAR.

The ear is subject to inflammations, for the most part, without fever, although the pains of the patient are sometimes very great. In some instances, the fever assumes a formidable appearance; stupefaction, delirium, and convulsions, come on, sometimes ending fatally. It is produced by the same causes with other inflammations, but by none more readily than by exposure of the ear to cold winds.

In the treatment of this complaint, we should proceed on the same principles as in that of common inflammations. While it is merely a local affection, local remedies alone are necessary, if we except purging for the purpose of cleansing the bowels. Local blood-letting by leeches, or cupping behind the ear; then a blister on the same place, and flannels out of hot water, are to be used. Injections of a weak solution of sugar of lead into the ear, will greatly tend to lessen the inflammation; also sweet oil, and milk and water.

If the pain does not abate, but should increase, we may expect the formation of matter. When this seems unavoidable, we may encourage it by the application of poultices, and warm steam or vapour, to the part; and when the abscess bursts, or is opened, the ear is to be syringed, from time to time, with some mucilaginous liquid, or oil, or milk and water; after which, soap and water.

When inflammation of the ear is accompanied with pain diffused over the whole head, fever, delirium, or stupefaction, the most powerful remedies are to be resorted to, as free bleeding, cupping the head, and strong purges, to subdue the inflammatory state of the system.

The formation of matter is generally the consequence of violent inflammation; and then the structure of the whole internal ear is apt to be injured; the bones sometimes become destroyed, and are discharged through the external hole of the ear, with much offensive matter. In these cases, we are to inject into the ear yeast, with charcoal powder, and astringent washes.—

There is a total loss of the sense of hearing in the ear, when the bones are discharged.

Calous holes, or orifices, called fistulas of the internal ear, are now and then the consequence of such disease, and prove very troublesome.

Ear-ache sometimes continues many days, without any apparent inflammation, and is then frequently removed by filling the ear with cotton or wool, wetted with laudanum, or ether, or with warm oil, or warm water. Sometimes a pain in the ear is the consequence of association with a diseased tooth, in which case, the ether should be applied to the cheek, the suspected tooth extracted, or a grain of opium, with a little camphor, be applied to the tooth. When insects get into the ear, they may be destroyed by blowing in the smoke of tobacco, or dropping in sweet oil.

Deafness may arise from many causes besides destruction of the ear from inflammation. Sometimes it arises from obstruction of the tube leading from the mouth to the ear; in which case, a surgeon alone can relieve by using injections in the part with a syringe of a particular structure. But the most frequent cause is the induration of the wax of the ear. This is to be removed by syringing the ear frequently with castel soap and water, and then filling it occasionally with olive oil. Sulphuric ether has been found very effectual in dissolving the wax. The best article I ever used, was a drachm of muriatic acid in a pint of water: If it smart, it should be further diluted. The nitric acid, equally diluted, has also been used with advantage. After any injections, the ear should be kept filled with wool or cotton.—Common salt and water, have been recommended.

TOOTH-ACH

Is an acute pain in one or more of the teeth; but most generally originates in one, and from that is extended to the adjacent parts. A decay of the tooth itself, different irritating substances, as the application of cold, or some acrid matter; is the most usual cause of the complaint. But in some cases

it would seem to proceed from a rheumatic affection of the muscles and membranes of the jaw: and here the whole side of the face will be affected. When it takes place in pregnancy, it is to be considered as arising either from an increased irritability, or from sympathy.

The acrid matter producing tooth-ach, probably originates in the tooth itself; as it frequently operates without any external injury to the tooth. But very frequently the decay appears first upon the external surface or enamel of the tooth, in one or more superficial spots. The caries, or decay, by spreading and corroding deeper, at length penetrates the substance of the tooth; and the external air, and other matter, getting into the cavity, stimulate the nerve, and thereby excite the tooth-ach.

The most effectual remedy for this disease, is extraction of the decayed tooth; but as this, in some cases, may not be adviseable, and in others is objected to by the patient, it will often be necessary to substitute palliative means.

To relieve the violence of the pain, where there is a hollow in the diseased tooth, cotton impregnated with substances of a caustic nature, such as the essential oil of cloves, cajeput, nutmeg, &c. also with sulphuric or other mineral acids, or a small pill composed of opium and camphor. In some instances, burning with a hot iron has been used, to destroy the sensibility of the nerve. To prevent a return of the pain, when it has ceased, the hole in the tooth should be widened within by a proper instrument, and then stopped with leaf gold; by which operation, it may often be preserved for many years without any further inconvenience to the person. Common white wax will often serve as a temporary remedy.

These are the remedies to be used when the disease is confined to a single tooth; but when the neighbouring parts become affected, or there is no access for such an application to the nerve, an irritation is to be excited by means of blisters behind the ears, or by rubbing the jaws with those linaments which induce a redness on the skin without blistering; afterwards keeping the part warm with flannel, has often afforded much relief in cases where the pain was diffused. The applica-

tion of steam, of olive oil, and of cloths from hot water, will prove of service.

In those rheumatic affections of the jaws, to which many persons are subject, and in which the pain is not confined to one tooth, but occupies the whole face, it has been found of service to excite sneezing and a free discharge of spittle, by chewing horse-radish, tobacco, or any thing that will produce the effect of increasing the discharge from the glands of the mouth. I would try a momentary salivation, by taking the dose of mercury in spirit, as prescribed for those bit by mad dogs. A decoction of the Jamestown weed, rubbed over the jaw, and held in the mouth, I have known serviceable; as also, a watery solution of opium. Powdered charcoal is the best tooth powder, as I have before stated on the subject of the teeth; and as it tends to lessen the decay of the teeth, as well as to correct all their offensive matter, it is incumbent on those who have hollow teeth to use it freely.

I conclude this subject with the precaution, that, when the teeth are sound, it is improper in general to extract one because it aches; for in most cases, the extraction will be followed by the pain of the next tooth, and soon. The affection, in these cases, should be treated as an inflammatory affection of a local nature; cupping, and blisters, &c. opposite. And I renew the advice given under the head of purification of the mouth, to have decayed teeth extracted; because they act as irritating matter in the sensible parts of the mouth, producing disorders very analagous to those of the secondary effects of pox.

INDIGESTION.

This is a complaint which attacks occasionally, in greater or lesser degrees, most persons. The difficulties of indigestion are complained of as universally as the subject of digestible food is discussed. Indigestion of greatest degrees, is sometimes marked by sickness of stomach, vomiting, and excessive flatulence: also, heart-burn, hiccup, waterbrash, acidity, head-

ach, lassitude, unhealthy complexion, bad sleep, high coloured urine, &c. Some modifications of this disease are attended with vomiting of blood or of bile; severe pain in the stomach, or are connected with uneasiness in the right side; bloody coloured urine, pain in the top of the shoulder, yellow complexion, repeated fits of vomiting, &c.: in short, by all the symptoms of diseased liver, of which it is sometimes a symptom. When the liver is affected, the best medical men should be consulted, and should superintend the salivation of the patient, which affords the only chance of cure, with a course of nitric acid.

Lesser degrees of indigestion arising from sedentary life, occur to those of costive habits, too lazy to take the trouble to evacuate the bowels every day. Persons who eat irregularly large quantities of articles they are unaccustomed to, drink immoderate stimulants, or eat them as in spices, are subject to serious degrees of this disease; as also those who have rotten teeth.

The cure will, in most cases, be perfected by avoiding the causes. When it is not, it will be best to consult a physician. Costiveness and a sedentary life are easily to be avoided. The general health is particularly to be promoted by rubbing the skin with the brush, and wearing coarse flannels in contact with it and by the salt bath. Lastly, but not of least consequence, is the diet.

To determine what is the best article of diet, what the most healthy food, although talked of by every body, is a most difficult task. Indeed, the most extensive observation leads to the conclusion, that there is no diet, healthy or unhealthy, but that all depends on our habit of using the particular kind. It is habit that familiarizes the stomach to the digestion of each article; and it is inattention to this habit, indulging in sudden changes from one to another diet, that has induced so many persons to pronounce so many articles unhealthy.

As soon as there is the least reason for believing the stomach to be disordered in its digestion, it becomes the patient to observe the greatest regularity in eating, as to time and kind. The most simple food, and that of which most has been eaten during life, should be selected. When it is necessary to

change, be sure to change most gradually, taking at first but a mouthful daily for several days previous to changing altogether. The propriety of this is confirmed by the sickness so generally produced in spring seasons, when the food is changed. Nothing more shows this than the nausea so generally felt after eating fish the first time; and similar are the effects produced by eating large quantities of any new fruit. Although we may not be sensible of it, in our common changes, nevertheless, very considerable effects are produced in the stomach by all variations in diet. Instead, therefore, of deceiving you, as some physicians often do, by advising you to confine yourselves to veal, fish, pork, or fowl, that they may gain reputation by the fancied skill displayed in the selections, I state the truth, that the good effects arise from the confinement; and that, in all human probability, one kind of meat, one sound article, is precisely as good as another. To this I will add, that rest after eating greatly facilitates digestion.

When the eructations from the stomach are very acid, chalk and magnesia, or a quarter of a tea spoonful of potash, or of soda mixed in milk or water, may be taken two or three times a day. When the stomach has been destroyed by the operation of strong stimulants, as spices, drams, opium, or strong tea, it is necessary to substitute, in lesser degrees, other stimulants to promote digestion, different from those which have been freely used. Iron, in a state of rust, is highly recommended: Indeed you had better try in succession all the articles, under the head of tonics and stomachics. The quantities or proportion must be regulated by previous habits, and should, with those who desire to be restored to health, be gradually discontinued altogether.

SPRAINS.

These are over-stretching or straining of the parts about the joints, arising from sudden or violent exertions, the slipping of the feet, or a fall. They most commonly affect the wrists, ankles and knees. They are followed by violent pain at the

instant, and then swelling and inflammation. There is generally a rupture of the blood-vessels within, and consequently an effusion of blood. The skin is not discoloured for some hours: after which it generally becomes of a dark blueish or red colour: increasing or disappearing from the inflammatory state in proportion to the extent of injury.

Fortunately the best remedy for lessening the effects of a sprain, is that nearest at hand, cold water. As soon as the accident happens, the part should be plunged in cold water, as a few pitchers of cold water poured over it. The next remedy is rest, perfect rest: the part being kept rather elevated, never hanging down. The cold applications stop the effusion of blood, and promote its absorption: the elevation of the part retards the passage of blood to it. It is customary to apply brown paper, (rags are as good,) wet with vinegar, or brandy and water to the part, and continue them wet on the part, for several days. Two or three drachms of crude sal ammoniac in a pint of water, is probably of superior efficacy. Spirits of camphor, or that preparation of it, called opodeldoc, may with advantage be rubbed over the part: and it should gently be daily rubbed with the hand or a ball of cotton.

If inflammation comes on the part, depend upon it, you cannot pay too great attention to remove it. You must bleed if there be fever, purge freely, live low, and make and continue cool applications of lead water. Leeches on the spot, most inflamed, will do great good, and so will cupping near it. If the part be much distended and painful, poultices at night of flax-seed, or elem bark, will aid in removing it. But if you will have patience in the first instance to confine yourself and follow the first directions, you will probably never have need of other advice. But if you do not, let me warn you that from very trivial accidents of this nature, the neglect of the precautions has been followed by a loss of the joint, by stiffness, by decay of the bone, and loss of the limb in consequence.

When pains, or numbness, remain after the sprained part is otherwise relieved, the pouring of water on it from an elevated spout, and frequently rubbing it with camphorated spirits, vo-

latile alkali, and the like articles, will expedite the entire recovery.

BRUISES AND BRUISED WOUNDS.

The frequency of the occurrence of these, and the abominable ignorance with which they are generally treated throughout the country, render this subject of no doubtful importance. A blow or knock on our flesh, producing what is called a bruise, is attended by the bursting of blood-vessels underneath the skin, and a consequent effusion of blood, producing more or less of a lump called tumour. It is often accompanied with tearing of the skin, constituting a wound. As in sprains, the first and best application is cold water. Let rags from the coldest water be instantly applied and kept on the part, whether the skin be wounded or not. The cold contracts the vessels, and prevents the effusion of blood. Cold metallic bodies, as a silver or iron spoon, or scraped potatoes and turnips, and the like, will answer. To promote the absorption of whatever blood may be effused, vinegar, or spirit and water, or a weak solution of crude sal ammoniac, occasionally applied, will prove sufficient in almost every case. But when considerable tumours are formed, and such treatment does not disperse them, and if inflammation comes on; poultices and lead water are to be used, as is commonly done for boils. As in sprains, the more comfortably cool, quiet, and elevated the part is kept, the better.

When matter is formed in these tumours, or the blood in them remains fluid, it is best to open them early, and give vent to their contents.

When there is a slight wound of the skin, all we have to do, is to exclude the air, which will be sufficiently well done by a plaster of tallow, suet, hogs' lard, or best by lead ointment.—But when tearing or laceration of the parts is considerable, we have to encounter inflammation sometimes of an alarming extent, ending in mortification. Gun-shot wounds are those of this kind most frequently occurring. Need I mention that in

all cases where any foreign body is found in a wound, it should be carefully removed? The advice I have to give, is comprised in this: Do nothing to increase inflammation, and do all you can reasonably to prevent it. Let the diet and drinks be of the mildest kind, and keep the parts without heat and at rest, for the first object. For the second, let the evacuations by the lancet and purging be in proportion to the degree of inflammation. When the inflammation is violent, local blood-letting by leeches or cupping, will be proper: poultices of lead water no less so. When the pain is violent, soothing applications of oily poultices, of flax seed, elm bark, and the like, should be applied and frequently removed. Bathing the part with olive oil and a warm watery solution of opium, will often lessen the irritation.

When matter is formed, its discharge is to be encouraged by common warm poultices until the inflammation subsides; and that taking place, the part is to be treated as a simple sore, the main point in doing which, is to exclude the air with plasters of the mildest ointments.

I have one most important precaution to give to those meeting with wounds of this nature. It is, never—never be, or, much less, sleep, exposed to a current of wind. Of nothing am I more convinced than that such exposures are the chief cause of that horrible affliction called the *Lock Jaw*. Every case of this disease I have seen, could be traced to this cause: not that it is the sole cause of it; but you will admit that it must have great influence, when you advert to its effects in producing the spasm of the muscles of one side of the neck, called the *wry neck*, which so frequently happens when one sleeps under an open window, with the wind blowing on the part. Its effects must be more powerful when the system is in the irritable state produced by bruised or lacerated wounds.

OF PUNCTURED WOUNDS.

These in general require no other treatment than the extraction of any foreign substance that may be left in them, when it

can be easily done: and to lessen the chance of inflammation by keeping a warm poultice on them, to preserve the surface relaxed, and facilitate the discharge of any matter which may be formed at the bottom of the puncture. When inflammation is threatened, the means to prevent and lessen it, pointed out under the last head, should be pursued.

These wounds sometimes end in convulsions of the muscles, and are most apt to be followed by *lock jaw*. Sometimes it is found necessary to dilate the wound and fully divide any nerve or tendon which may have been punctured; sometimes a blister over the part has succeeded without the division.

OF WOUNDS FROM CUTS.

These are called *incised wounds*; generally proceeding from the incision of some edged instrument, as knives, scythes, &c., and accompanied with more or less loss of blood; the division and the separation of more or less flesh.

The first object we have in view, is to stop the bleeding; the second is to save as much flesh as we can, for a speedy union; and the third is to regulate the inflammation ensuing to the best advantage.

If the bleeding be from small vessels, it need not be regarded; a little cold water will speedily stop it. If it be from a large artery, (and of course dangerous,) which will be shewn by the jets, or sudden spouts of the blood, it is instantly to be stopped, either by the continued pressure of the hand of some one, or by tying a band or rope around the limb, and twisting it till the bleeding ceases. If a surgeon can be procured directly, in the name of common sense, you are to lose no time in procuring one; but if he cannot be procured in two or three hours, other steps must be taken. If a surgeon's needle and thread cannot be procured to take up the artery, a substitute must be tried: you can make, of the toughest hickory wood, a pair of forceps—an instrument like the tongs used to curl hair, and well fastened together at the joint. On wiping the wound, and seeing the bleeding vessel, these can be applied to

it, compressed together, and tied, so as to remain squeezing the sides of the bleeding vessel. I speak of this only as a substitute, which I am sure any active, attentive attendant, can carry into execution. If not this, then cram the wound full of powdered charcoal, which will coagulate the blood; then bind up the wound moderately tight, and unloose the cord or band, or the limb will mortify. If not, make a little bolster, of cork or stiffly quilted rags, to press on the bleeding artery; it is not to be larger than the wound to which it is to be applied, and it is to project outwards an inch or two: then, for the opposite side of the limb, make another bolster, which is to be laid with the length of the limb; a piece of plank, broader than the limb is wide, is to be put on this, and a bandage applied around and over it, and the bolster on the artery. The consequence will be, compression on these two opposite parts only, so that the circulation of the limb can go on at each of the sides. Imperfect as are such substitutes, they would save many lives in the country, if resorted to, until surgeons could be obtained.

For the second object, of saving as much flesh as we can, we must cleanse the parts; and although adhering ever so little together, they must be restored to their natural position, and kept there by plasters or stitches.

The propriety of strictly attending to this direction, is daily established. You would not believe—it is scarcely credible when one sees it—what portions of the covering of our skulls, what parts of the body, have been cut off, so as to hang only, as it were, by a thread; which parts, when replaced, have united to their adjoining parts, leaving only very slight marks behind. The resources of nature are always wonderful; but I think never more so, than in the restoration of such divided parts.—You are, therefore, to take care never to cut off any part of the body, hanging to another part, without giving it a chance of reunion to the sound parts. These parts are to be well cleansed by washing with warm water, and the edges reinstated as well as practicable. It is best to keep them so, by slips of sticking plaster, when they will answer; to apply these, they are warmed first, and on making one end stick on one side of the wound, the other end is to be carried over to the other side,

while the edges of the wound are pressed closely together; and there is to be as many of these as will cover the wound, excepting every inch, where a little opening is to be left for the passage of matter which may form.

The next mode is sewing up the wound. This is described, in technical nonsense,—making *sutures*, in various ways. The plain English is: take a needle full of strong, double, twisted, and waxed thread, with a common coarse needle at each end; push each needle through at opposite sides; best done by pushing, not on the top of the skin down, but underneath the skin upwards; draw each needle through, and tie the thread so as to bring the edges of the wound together. Stitches of this kind are to be made the length of the wound, each about an inch apart; and then the whole is to be covered with a plaster of simple or lead ointment, or tallow, or hog's lard, in order to exclude the air from the wound; which is lightly to be bound up, and left at rest for three or four days. The wound at this time is to be examined, and new dressings applied. It not unfrequently is found united, or what is called healed by the first intention: but if not, matter is formed, and the wound is to be cleansed and treated as a simple sore; that is, in the most simple manner possible; every application to be mild; nothing irritating.

But sometimes it happens that the wound, instead of forming matter, takes on the most violent inflammation; pain and great fever attend; and there is danger of what is called mortification. In such cases, we have to exert every means to retard this inflammation. You must bleed and purge in proportion to the violence of the action and strength of the subject. Bleeding near the part by cupping and leeches, cold and even ice water, and applications of lead water, frequently renewed, are to be tried; but occasionally warm poultices of flax seed, of slippery elm bark, or any other mucilage, are found readily to allay the irritation.

Sometimes it happens that no efforts can prevent the termination in mortification. The symptoms of this are, the cessation suddenly of pain, the formation of blisters, a dark appearance, and a subsidence of the hardness and swelling of the

part. If the inflammation still continue, we must still continue the cooling applications, and do so until they subside. Sometimes the mortification extends, and it seems as if it would have no limits. Various modes of treating the wound, to arrest this state, have been recommended; but the best is that recommended by Dr. Physic, of Philadelphia: it is to apply a blister around all the mortifying edge, to extend one or two inches over or on the sound parts. The whole of the mortified part is to be covered with a poultice, in which charcoal is to be the principal ingredient; common Indian meal, made into dough, with yeast, is to be mixed with the powdered coal, and applied to the mortified part. It tends to arrest the putrefaction, and to correct the discharges so offensive to the smell. When the mortification ceases, nature causes the separation of the sound parts; and the unsound are to be removed as they are detached. The sores are to be treated as those of the common kind; and the state of the patient must decide whether his system is to be further evacuated, or to be stimulated.

During warm weather, especially, these wounds are very apt to have in them a great many maggots. Whenever they appear, they can be immediately destroyed by a wash made of nitric acid and water; about one drachm to the pint of water. If it smart, more water can be added. Under any circumstances, the utmost cleanliness ought to be observed; for, really, the acrid, putrefying matter, tends to irritate the wound, and retard the healing.

All wounds forming matter, ought to be daily washed with weak soap-suds. The parts affected should at least occasionally be so placed, that the matter may run out, instead of its stagnating in them. Whenever it smells offensive, they should be sprinkled with fine charcoal. It is said that a weak solution of nitric acid, has a similar effect in correcting the offensive discharges.

Wounds of the head always require more attention, in proportion to their extent, than those of other parts. Their contiguity to the brain is such, that not unfrequently those of a very trivial nature cause the inflammation of the brain and formation of matter under the skull. I mention this fact, in the

hope that it will induce you to remember the caution, that after all such accidents, the patient ought to do nothing to excite inflammation; he ought to live very low, and to take an occasional purgative, to guard against the excitement of the brain. It will be useless for me to give any directions about the treatment when the skull is fractured, as surely you will apply at once to a surgeon. But I will add, that sometimes there is an appearance of depression, when there is none; it arising from the edges of the blow becoming elevated and leaving a hollow within them.

I have stated that these wounds, after the bleeding had subsided or was stopt; after all foreign bodies were removed, and after their edges were brought and kept together, were to be treated as simple sores, if they did not at first heal, but inflamed and formed matter. Let me again impress upon you, that rest is indispensably necessary for the healing of a wound. A sore or wound on a joint has been known to continue for years, when the part was allowed to be moved: but perfectly healed in a few days, when the joint was straitened and kept so by splints. Hence this should always be done when the sore is on a joint. Next to rest, you have to exclude the air, which always tends to irritate and inflame. To do this, the application of simple ointment, tallow, lard and bees' wax, are sufficient. To expedite the healing, the greatest improvement ever made for the object, is to apply slips of adhesive plaster, about the width of an inch, in the way recommended for keeping together divided parts. Let one end of the plaster be stuck about four or six inches on one side, and there held, while the other end is carried over and stuck to the other side, so that it shall pass over the sore: press down the growing fleshy fibres, called granulations, and bring them closer together, so that they may unite. These slips of adhesive plaster, called Baintons slips, were first applied by a gentleman of that name, and are unquestionably the most useful applications ever made to simple sores. In addition to their enabling you to expedite the healing of sores, they should teach you the folly of ever undertaking to put any thing between the edges of wounds, to keep them apart, or cramming up, or distending, deep wounds with any

trash, instead of letting the sides come together for speedy reunion.

WOUNDS OF THE JOINTS.

In these, as in all wounds penetrating cavities, it is of great importance to guard against inflammation: as the effects of it, when violent, are very destructive to the constitution.

In all cases of wounded joints, it is important to place the limb in such a posture as to favour the union of the sides of the wound, in order to prevent the admission of air, which seldom fails to produce general irritation. Not only absolute rest is to be enjoined, but a very low diet, with slight laxatives. The parts should always, when practicable, be brought together, and kept so by slips of adhesive plaster, in preference to sewing them up: and when they are to be stiched, the needle should only pass through the skin, and never to enter the cavity of the joint, where they would increase the inflammation. Treated in this way, they very generally speedily unite without inflammation.

When inflammation comes on, in consequence of the wound, the constitution suffers severely: fever comes on, generally ushered in with great sickness of stomach; violent pain takes place in the joint; and there is an increased secretion of the liquid of the part, called *synovia*, and it is more watery than usual: the adjoining bands, called ligaments, enlarge; matter is formed in all parts of the joint; sores, called ulcers, are formed, followed by openings in various parts of the skin covering the joint. Inflammation of this sort, in the joints of the thigh and knee and ankle, never takes place without great danger, extreme pain, and frequently death.

When the inflammation does not terminate so speedily, the bone becomes inflamed, decays, and exfoliates or separates, and the joint becomes fixed, or, in other words, immoveable; the patient suffering a tedious, long, and painful confinement, under which the constitution often sinks—and a lingering death concludes the sufferings. These terrible consequences sometimes

result from simple cuts, or punctures; and are only to be prevented by an energetic application of the remedies enumerated to subdue inflammation—to be extended as far as the patient's strength will permit. Local bleeding, by cupping or leeches, is to be employed freely; and Dr. Dorsey further recommends a blister over the whole joint, to be applied earlier than is recommended by others. He further says, that from whatever causes the continued inflammation of the parts arise, the repeated use of blisters is never to be omitted.

In order more effectually to procure absolute rest of the joints, it is necessary to apply splints to fit the parts; which being lined with soft materials, occasion no inconvenience. In wounds of the knee, ankle or elbow, these splints are indispensably necessary. When there is reason to apprehend a stiff joint, it is necessary to choose the position of the limb in which the stiffness will be least inconvenient to the patient, and to preserve that posture during the cure. If, for example, the elbow were to heal with the arm permanently extended, the limb would be almost useless; whereas an arm bent at the elbow, may be useful.—And the reverse in the knee; as an extended leg would favour walking.

WOUNDS OF THE NERVES, TENDONS, AND VEINS.

The first symptom indicating a wound of a considerable nerve, is severe pain, and afterwards a numbness or diminution in the sensation and powers of the part to which the injured nerve went. These in general gradually subside, and no particularly bad consequence results from the wound.

The tendons (called sinews) when wounded, occasion no pain. In healthy state, they possess no sensibility; though are exquisitely sensible when inflamed. These wounds are to be treated as wounds in other parts; by keeping them at rest, with their divided surfaces in contact. It happens to carpenters and ship-joiners, occasionally to divide with a foot adze the great tendons connecting the heel to the calf of the leg, (*tendo Achilles*).

When this accident happens, the foot is to be extended by means of a splint extending from the toe to the knee: the divided surfaces of the tendon are to be accurately placed in contact and kept so six or eight weeks, when union will be effected: but the patient should not attempt supporting the weight of his body on the limb for several months. The same mode of treatment is necessary in cases of rupture of the tendon; and if folds of the skin get between the ends, they are to be pulled out, and kept so by means of adhesive plaster. When parts of the calf of the leg rupture, there is generally severe pain and effusion of blood. The treatment is the same: and a roller should be applied around the leg.

Wounds of the veins are sometimes followed by inflammation and matter is formed within the vein; and being carried to the blood and heart, is apt to occasion death; in many instances preceded by violent fever, and formation of boils or abscesses in the course of the vein. The fever should be treated by evacuations and low diet: but on the vein Dr. Physic recommends the application of a blister over the orifice, and extending three or four inches around it in all directions. This remedy has been found unquestionably the most successful ever used in such cases.

WHITLOW.

This is a very painful and distressing inflammation, seated at the end of a finger or thumb, generally terminating in the formation of matter. The inflammation appears in different parts; either at the root or side of the nail; or near the end of the finger, or underneath the whole of the soft parts; or underneath the immediate covering of the bone, and the bone itself. The most distressing kind is that where the tendinous parts are affected, and the inflammation extends along the hand, up the arm; sometimes rendering amputation necessary.

In the treatment of this affection, we should act with an energy proportionate to the degree of disease. In all cases of fever, blood-letting, particularly by leeches, from the part,

purges and low diet, should be enjoined. In common cases, repeatedly scalding the finger by suddenly dipping it in boiling water, proves sufficient. It is much better to use the strongest lye, than water, for this purpose. A blistering plaster of strong ointment, should be applied around the whole finger, in order to excite action on the surface, to relieve that underneath; and it ought to be kept continually discharging. When matter is formed under the nail, Dr. Dorsey recommends the nail to be scraped away over it, and a small puncture made for letting it out. Whenever there is reason to believe that matter is formed in any part, by all means, freely cut down to it, and give vent to it. Immediate relief from pain will be had, and an end be put to the danger of prolonged, distressing, and dangerous inflammation: for the subsidence of the inflammation and healing of the part are very rapid; whereas when the parts burst, as in common boils, these operations are very tedious and painful. In my practice, I have never had a case of extended inflammation, because very early I learnt Dr. Physic's important directions for preventing it—by free evacuations; but above all, by relieving disease within by exciting it without, by scalding and blistering the skin to the greatest extent.

WARTS AND CORNS.

These are generally situated in the hands and feet, and are a sort of excrescence composed of fibres arising from the part below the upper skin. When irritated, they are apt to bleed and become sore.

The best mode of treating them, is to stimulate them by applying a strong tincture of Spanish flies, the strongest vinegar, caustic volatile alkali, a strong solution in water of corrosive sublimate with double the quantity of crude sal ammoniac, blue vitriol; and these failing, you must apply lunar caustic, the sulphuric or nitric acid.

Corns consist in the thickening and hardening of the skin generally about the joints of the toes, and are the result of the compression from wearing tight shoes. They are to be reliev-

ed by wearing loose shoes; by applying pieces of leather spread with adhesive plaster, and with holes cut in them of the size of the corn. These are put on the part; and the corn being uncovered, is not compressed, as the shoe touches only the surrounding plaster. Mr. S. Cooper states that a corn may infallibly be cured by the following method:—The corn is to be rubbed twice a day with some soft, mild ointment, and then to be covered with a soft plaster. Every morning and evening, the foot is to be put for half an hour in warm water, and while there the corn is to be well rubbed with soap; afterwards all the white pulpy outside is to be scraped off, taking care to give no pain. This treatment is to be continued without interruption, until the corn is totally extirpated, which generally happens in ten or twelve days.

THE INVERTED TOE NAIL.

This arises generally from wearing tight shoes, and is attended with severe pain and inflammation: and is sometimes followed by sores, and the formation of flesh so tender as to render walking impracticable. Sometimes in less degrees of this affection, it has been relieved by daily bending the edge of the nail upwards, by introducing a small probe underneath the depressed lower part and bending it upwards, while with some large probe or body the upper part of the nail is held in its place. But Dr. Dorsey recommends an entire cutting cut of the nail; for which, of course, you will apply to a surgeon.

OF BODIES LODGED IN THE THROAT.

Pins, peach stones, fish bones, and other hard bodies, are not unfrequently lodged in the throat, and require immediate attention.

To extract substances from the gullet, called *œsophagus*, the fingers and forceps are generally the only instruments which can be employed. Frequently by pressing down the tongue

with the handle of a spoon, the foreign substance may be seen. Whether seen or felt, the finger or forceps may be forced around it, so that it may be pulled out. Sometimes a wire, with a curve or hook at one end, may be pushed down the throat: and then by turning it as it is drawn out, the body may be extracted. When this fails, it is recommended to introduce down the throat, beyond the foreign body, a piece of compressed sponge, about the size of a chesnut, well secured to a cord; water is then to be poured down the throat, which will distend the sponge, which is then to be extracted, and may bring with it the body desired to be removed. Next to this, a flexible piece of whale bone, called a brobang, or a smooth split of white oak, may be tried; to the end of it a bunch of thread, doubled so as to make an immense number of nooses, is fastened: and it is pushed down the throat and withdrawn. Little bodies may frequently become entangled, and be extracted in this way.

When the matter cannot be extracted, it becomes necessary to push it forcibly into the stomach. This is sometimes effected by swallowing a large bolus of bread; but generally by a piece of sponge, or ball of cotton, fastened to the end of a flexible piece of whale bone or wood.

Mr. Bell says that the difficulty of swallowing arises in these cases as much from the irritation produced by the body, as from the bulk of the body. Dr. Physic has therefore recommended keeping a strong solution of tartar emetic in the mouth, to excite relaxation of the parts, and thereby has afforded great relief.

FROSTBITTEN PARTS.

Among the negroes and the poor, accidents of this nature are not uncommon. In such cases, as in warming the body, to avoid aching, the restoration to heat must be very gradual: a limb has been frozen perfectly stiff, and by being rubbed in snow, afterwards in cold water, and very slowly warmed, its life has been preserved. The sudden application of heat never fails to occasion inflammation, and mortification quickly

follows. When the heat has been gradually restored, and action and sensation are perceived, the part should be rubbed with spirit, the patient be put to bed and kept comfortable: perspiration excited by warm drinks, and by enjoining perfect rest until the effects subside.

Dr. Dorsey further states, that when mortification occurs, a blister is to be applied to its edges, to hasten the separation of the dead from the living part; and the sores are to be dressed with basilicum ointment, rendered more stimulating by mixture with the oil of turpentine.

CHILBLAINS.

This is a local inflammation, situated generally upon the heels, toes, and fingers: but sometimes on the nose and ears; arising from exposure to cold. It varies in degree; when moderate, a redness is observable upon the skin, attended with heat and itching—In greater degree, the part swells, becomes of a deeper red colour—sometimes purple or dark blue; the heat, itching, and pain are very great. Sometimes small blisters arise, which burst and end in sores—even in mortification.

It is the sudden and great changes in the temperature of the air that produce chilblains. They occur oftenest in persons accustomed to indulgence—in women and children. The substitute of thin for thick shoes, is probably the most frequent cause of those on the feet.

They generally make their appearance in the winter; disappear during the summer, and return the succeeding winter.—Some persons suffer most in the fall: others in the spring; and their duration is from weeks to months.

To prevent their formation, the feet should be bathed every morning in cold water: and when the feet are cold and damp, they should never be held near the fire; nor when very warm, be allowed suddenly to get cold.

The remedies, Dr. Dorsey states, (most accurately indeed) depend on the degree of inflammation: but that the several remedies for inflammation, however, do not relieve the pain and

itching which attend this complaint; and that it is important to know that what will cure one will do no good to another; therefore they must be varied. In some cases, great relief is obtained from washing the part with spirit, brandy, laudanum, and the like; and in others, poultices afford most relief. Leeches are often useful when the inflammation is considerable: also cold water, or snow, applied to the part, and repeated and continued till the pain abates. Strong fresh lime water has been recommended, to bath the part in, morning and evening, for half an hour. Spirit of hartshorn, oil of turpentine basom copaiva, basilicum ointment, tar ointment, and ointment of Jamestown weed, have occasionally afforded relief. I have successfully used a plaster made of powdered opium and soap: also of laudanum and sweet oil; and I think with greatest efficacy, a plaster made of one drachm of powdered opium and half a drachm of sugar of lead, rubbed up with a little hogs' lard and thinly spread on the part.

When sores arise from chilblains, they are to be treated as sores from other causes.

FRACTURES.

The breaking of the bones of the body, may be the result of external violence, or of the sudden action of the muscles, or the conjoint operation of both. The bones most frequently broken, are those of the extremities. It is called a simple fracture, when there is no opening from the fracture externally; but a *compound fracture*, when there is an external communication. The causes of fracture, are as endless, as the variety of accidental force to which bones are exposed. In old age, as well as in particular diseases of the constitution, bones are more liable to be broken: and also, in winter. This was supposed to arise from the influence of cold; but Dr. Physic gives a better explanation: he considers it as the result of extraordinary muscular action, excited by the exertions to avoid falling on the frozen and slippery places or pavements. Hence, persons whose muscles are relaxed, as in a state of intoxication,

much less frequently have their bones broken from a fall, than those who are sober and very solicitous to guard against tumbling.

The symptoms of fractures are, severe sudden pain, alteration in the form of the part, sometimes a shortening of the limb, an inability to move the limb without severe pain at the injured part, an inequality of the skin covering the bone: a grating, called *crepitation*, of the edges of the bone against each other; a motion and noise not to be mistaken for any other.—By taking hold of the limb above and below the fracture, and moving the fractured extremities of the bone, the noise is produced, and the existence of the fracture rendered unquestionable. It is well here to remark, that the fewer these attempts are made, the better; as it is injurious that the edges of the bone should be much rubbed over each other. When the parts are much swelled before examination, the difficulty of ascertaining the fracture is increased.

The reunion of fractured bones is effected nearly in the same manner as that of the soft parts. The inflamed vessels pour out the matter necessary for the union, and the absorbing vessels take up the unnecessary parts. The matter poured out for the union, is called *callus*; it is at first soft, but gradually becomes firmer, and completely ossifies.

TREATMENT OF FRACTURES.

The indications in the treatment of fractures are, to place the parts of the broken bone as near as possible in their original position, and to keep them so until union is effected. The first is done by moderately extending the parts, so that the edges may be made to come in contact; the other is done by the application of splints and bandages.

The treatment of the patient, as it relates to the constitution, is to be regulated by circumstances. A certain degree of inflammation is essentially necessary for the process of restoration. If it be too violent, instead of the formation of callus for the reunion, common matter will be formed; it will come

out, and, thereby making an opening, will convert a simple into a dangerous compound fracture. Hence the inflammation must be regulated, not so much by purges, as generally it is very inconvenient; but chiefly by blood-letting and low diet.

When the soft parts are much injured, greater attention is necessary to keep down the high action, than when only the bone is broken. In cases where there is much swelling, or much effusion of blood, cold applications of lead water, and free bleeding, can alone prevent the formation of matter. In every case where it is proper for the patient to remain in bed, it is necessary to have a bed pan for the evacuation of his bowels; if a good one cannot be got, you will have to use the substitute I have recommended to the attendants on the sick. But a better mode will be to have the patient laying on a mattress, with a hole in it of proper size; the mattress should be on a plank bottom, as a door, in which another hole is to be, correspondent to that in the mattress; in these holes, are to be suitable stoppers. And when the patient wishes to evacuate, the door and all are to be elevated, the stoppers removed, and a pot placed underneath to receive the discharge, which being finished, the whole is to be replaced. In some places, bedsteads with screws and pullies, are made to effect these objects: but as they cannot be had in the country, a contrivance can be made to answer in the way I have suggested, requiring no skill in construction, and the labour of only one or two to place and replace it. Under any circumstances, it is improper to place the patient on a feather bed, on account of the irregularities necessarily ensuing. If a hair or wool mattress cannot be procured, it is better to substitute a few folded blankets on even boards. All fractures should be examined in the course of six or eight days after they have been reduced, to rectify any displacement.

PARTICULAR FRACTURES, OF THE MOST COMMON KIND.

FRACTURE OF THE LOWER JAW.

This bone is liable to fracture in all its parts. The symptoms are, severe pain at the time of the accident; an inequality is perceived in passing the fingers along the bottom of the jaw; the teeth, on examination, are found unequal; and on taking the two sides in the hands, it is easy to reduce the teeth to their proper level, and in doing so, the grating motion is perceived.

To reduce the fracture, nothing more is necessary than to shut the mouth, and forcibly push upwards the lower fragment, until the teeth contained in it come in contact with those of the upper jaw, when it is to be supposed the parts are in proper place. The simplest and best plan to keep the parts in place, is to avail yourself of the support given by the teeth in the upper jaw, by binding the fragments firmly against them, and this can be very conveniently done by means of a simple roller of common cotton muslin passed repeatedly round the top of the head and under the chin. It may be further secured by passing a few turns of it round the back of the neck and in front of the chin.

The patient should be nourished fifteen or twenty days on spoon victuals, sucked between the teeth; and the only additional remark I have to make, is that when the teeth at the fractured bone are loose, they are not to be touched; much less removed, as that would convert the simple into a compound fracture, or, in other words, admit the air to the broken parts of the bone.

FRACTURE OF THE RIBS.

These are generally broken near the middle. The fracture is ascertained by a severe pain in breathing: by careful examination with the hand: and by feeling the grating of the bones, particularly when the patient coughs. The only treatment necessary, is to pass a roller about six inches wide repeatedly around the chest, and as tight as the patient can suffer it to be drawn. It is to be prevented from falling down by shoulder straps.

When the edges of the bone have wounded the lungs, there is spitting of blood: and violent, if not fatal, inflammation will follow, unless the patient be freely evacuated with the lancet and by purges, and made to live on a very spare diet.

FRACTURE OF THE ARM.

This most generally occurs about half way between the shoulder and elbow. When it is broken directly across, and near the middle of the bone, no great derangement takes place; the limb preserves its length, and its form too, unless it be moved. The mode of treating this fracture, is to set the patient on a chair; one person is to hold the body, with his arm around the chest; another the forearm bent at right angles over the breast, and to raise it a little from the side, and extend it when the operator is to place the two ends of the bone in contact; to pass around the arm, from the elbow to the shoulder, a roller, moderately to compress the part without impeding the circulation. He then applies a splint of wood, firm paste board, or of raw hide, on the top of the arm, from the elbow to the shoulder; then another on the outside, of similar length: and in the inner side of the arm another, from the armpit to the lower part of the elbow. These are to be secured by another roller or bandage. Folds of flannel are to be placed in the armpit, to give some support, and the forearm is to be suspended

in a sling. At the expiration of a week, the parts are to be examined, and, if found out of place, to be rectified; the joint at the elbow should be gently and carefully moved, in order to prevent stiffness: and this ought to be repeated, after the first week, once every other day. At the end of three weeks, it is recommended to alter the dressing and substitute splints, which instead of keeping the arm bent at right angles, will keep it nearly extended. This is done to prevent its partial deformity. Dr. Physick states that the same effect will be produced by keeping the patient in bed, with the arm bent at the elbow and lying on its outside, supported by a pillow.

FRACTURES OF THE FOREARM.

The forearm is composed of two bones; and sometimes only one of them is broken, at others both. The symptoms are great pain at the time of the accident, increased by motion of the hand; an inability to turn the hand either up or down, and the grating common to all moveable fractures.

To reduce the fracture, the forearm is bent to a right angle with the arm; an assistant takes a firm hold of the arm just above the elbow; a roller is to be applied, extending from the hand to a little above the elbow; two splints, broader than the arm, made of either of the materials before mentioned, are to be applied, one on the inner and the other on the outer side of the hand, extending from the fingers up to the elbow, leaving the thumb upwards, projecting between them. The hollow places should be filled up with tow or cotton, and a bandage applied around, to preserve the whole in place.

In about ten days the parts are to be examined, and rectified if deranged. In thirty or forty days, the union is generally completed. The elbow and wrist should be moved every other day, as in fractures of the arm, after the first week. When only one of the bones is broke, the treatment should be the same.

When the bone at the elbow (called olecranon) is fractured, it is drawn up by the muscles attached to it, leaving a consid-

erable space between the broken parts. The proper treatment of this accident is to extend the arm, and apply a broad bandage around the arm to compress the muscles, and thereby prevent their action in separating the broken part. The separated bone is to be pushed down to its natural place, and a long compress placed on it, over which is to be applied a roller extending the greater way over the arm and forearm: a large long splint is to be put on, extending from the inner part of the arm to the hand, and a roller is to be applied from beginning to end. It should be so passed around the elbow as to form a kind of figure of 8, in order that the upper part of the bone may be drawn down by its oblique compression. In about thirty days, the joint may be very gently moved by the hand of an assistant—but it is not to be attempted by the patient for near double that time, as the parts otherwise might be ruptured again.

In fractures of the bones of the hand and fingers, all that is requisite, is to restore the parts as accurately as practicable to their natural position, and preserve them in as quiet a state as possible; taking care, as in all other cases, to prevent the inflammation from extending too far.

FRACTURES OF THE THIGH.

The directions for treating these fractures in the systems of surgery, are too complicated for me to be able to give them without the aid of plates to explain. There can be no doubt, but that in all such cases when surgical aid can, it will be obtained. But in case of this being impossible, it may be of service for me to add, that the patient is to be laid on a mattress on boards, with a hole in it for the evacuation of his bowels.—That instead of the splints recommended by Desault and others, on such occasions, it may suffice to have a box made without a top, just wide enough to receive the limb, and of length to extend six or nine inches beyond the foot, up to or near the privates, with the outer plank, or side of the box, to extend by itself up to or near the armpit. In this part there is

to be a couple of holes, for tying a bandage securely. The limb is to be placed in the box, with a pocket handkerchief so equally applied to the foot, that it shall not bind too much on any one part. Another pocket handkerchief is to be applied between the thighs; one end to go under the buttock, up to the hole in the outside plank of the box; the other end is to go up in front to the other hole, and the two ends are to be tied together. The next operation, is to pull the limb downwards, and put the bones in place: and the handkerchief around the foot is to be extended and secured to the end of the box by any contrivance that will hold it. Thus the handkerchief between the thighs will preserve the extension above, and that at the foot will extend the lower limb, and it may occasionally be drawn tighter.

This rude sketch, I hope, will enable you to do some good on such occasions. I have to add, that the box ought not only to be made of firm materials, but should be well lined or stuffed in every part where it touches the flesh of the patient, with finely carded and smoothly placed cotton or tow, to prevent excoriations.

FRACTURES OF THE KNEE PAN.

These are very analogous to fractures of the end of the elbow, occasioned by falls, blows, and other violence, as well as too great action of the muscles. When this accident occurs, the patient generally falls; though sometimes he gets up and by dragging the limb sideways, may be able to walk, taking great care not to bend the knee. A depression or hollow at the place of fracture is perceived, and commonly the upper is found considerably drawn up from the inferior part, which is fastened to the lower bone.

The great object to be attended to in the treatment of these fractures, is to preserve the fragments as near as possible together, so that the substance connecting them, may be as short as possible, and the motions of the joint be perfectly preserved.—

In proportion to the violence producing the fracture, should be the attention to keep down inflammation.

The local treatment consists in keeping the limb at rest, in an extended posture: and by a splint and bandages preserving the contact of the fragments. This is done by taking a piece of plank about half an inch thick and three inches wide, and extending from the buttock to the heel. Upon this splint, covered with folds of cotton or flannel so as to fill up the inequalities of the limb, the patient's leg and thigh are to be placed. A common roller is to be carefully applied from the foot to the thigh, so as to equally compress all parts, leaving none exposed; but you are to observe, in passing the roller over the knee, as in the case of the elbow, it is to be so done as to press down the upper to the lower part; making, as in the other case, the figure 8; so that the roller as frequently passes one part below, the other above the fragment several times, when it is to be continued to the thigh. A compress of folds of flannel, should previously be put over the knee.

The limb is then to be equally bandaged to the splint underneath. Dr. Dorsey recommends two slips or bands of doubled muslin, each a yard long, to be nailed underneath the splint, at a distance of six inches from each other, and about the middle of the splint, or just so as to be underneath the knee. These bands are to be passed—the lower one above the upper fragment, and the upper one below,—so as still to make the figure 8, and press down the upper to the lower part. The joint should gently be moved by an assistant about the thirtieth day, to be continued moderately every other day, to prevent stiffness.

FRACTURES OF THE LEG.

These are distinguished, as in other cases, by pain or duration; deformity of part; and the grating peculiar to broken bones.

In fractures where the bone is broke directly across, it is merely necessary to reduce the fracture with the hand, when the limb is extended, and apply a roller from the foot to the

knee; then two splints, one to each side, of pasteboard or thin plank, extending from the knee to the sole of the foot; and over these splints another roller is to be applied, to preserve them in their places. The bandages should never be drawn too tight, as the limb will swell, and they may do injury by compression. The limb is now to be placed on a pillow, and put in a box, or, what will answer, between two long slips of plank, which are to be tied around, so as to support the whole.

When the fracture, instead of being directly across, is in an oblique direction, it is necessary to dress the limb in the same way as in fractures of the thigh bone; excepting that, when the fracture is not near the knee, the upper part of the box may be fastened a little below or around the knee; and therefore its external side need extend no farther. There should be a hole in the upper part of both the inner and outer side of the box, and the handkerchief or band should be so made as to pass from the knee through each of these holes, where it is to be fastened. Another handkerchief is then to be applied around the foot, which is to be extended; then the ends of the handkerchief fastened to the end of the box, so as to preserve the extension of the limb. Of course, a roller is first applied around the leg from the foot to the knee; and the box is to be well supplied with cotton or tow, to fill up the inequalities of the limb.

FRACTURE OF THE COLLAR BONE.

The name of this bone is clavicle; and it is probably as often fractured as any other of the body. It is commonly broken about its middle. When it is broke, the part nearest the shoulder is drawn downwards by the weight of the arm; the arm of the affected side falls over upon the breast, and the patient is unable to raise his hand upon his head. He leans to the fractured side; the grating of the bones may be perceived; and the finger passing over the bone, will readily detect the place of fracture.

This fracture has frequently been successfully treated, by simply keeping the patient laying down, with his arm so placed, that the broken edges of the bone may be in contact. But most commonly it is dressed in the following manner: A bolster or pad is to be made of quilted cloths, in the shape of a wedge, about as long as the arm; four inches wide, and at least three inches thick. This is to be put under the arm, the base close to the armpit, the point down the side; and it is here to be well secured by a roller passing around the body, and so turned over the shoulder, that it cannot be displaced: a contrivance which any one can make, who will exercise common sense. The patient being seated on a stool, and held by an assistant, the operator is to bend the elbow at right angles, and the forearm is to be supported by a sling around the neck; the arm and elbow are to be pressed to the side; the wedge above acts as a point for the extension of the broken bone, and it is to be bound down in that state by a wide roller passing around the body and over the elbow. It is impossible to give an accurate description of the particular manner of applying the bandages. By the exertion of sound sense, it can be done to effect the main objects, which are, first, to preserve in place the wedge underneath the arm; second, support the arm bent on the breast; and third, to press down and keep the elbow on the side, so that it shall cause the extension of the upper part of the arm, and consequently the broken bone. A slip of adhesive plaster will be sufficient to cover the broken bone.

DISLOCATIONS.

This is a displacement of a bone at its joint from its natural situation. Some knowledge of anatomy is indispensably necessary to understand accurately the subject of each particular dislocation. In general, it may be remarked, that parts are liable to this accident in proportion to the freedom of their motion. Hence the shoulder joint is most subject to displacement. The action of the muscles of parts, certainly assists in producing dislocations, as it does in fractures.

The symptoms which distinguish dislocations are, pain and inability to move the member; a change in the appearance of the joint; a lengthening or shortening of the limb, and an impossibility of performing particular motions. By careful examination, the displaced bones may often be felt in their new situations, producing elevation in some parts, and depression in others.

The principal obstacle to the replacement of bones, is the contraction or strong action of the muscles, drawing the dislocated part from its natural position. In order to overcome this action, it is customary to bleed the patient until fainting is produced, or to give a dose of tartar emetic to relax the system; and it may also be done by an injection of tobacco.— In the relaxed state following such treatment, the reduction is often easily effected. Assistants' hands are all that is requisite in common cases of dislocation. In cases where pullies are requisite, surgeons only should attempt to operate. And you should always apply for assistance as early as possible; for the longer the part remains out of joint, the more difficult will be the reduction.

In cases of dislocation where inflammation comes on, the use of leeches or cupping should be resorted to; bleeding, purging, and low diet, of course, to lessen the feverish symptoms. Rest should be strictly enjoined; and the parts may be bathed in lead water, in a solution of crude sal ammoniac, in vinegar and water; or cloths from hot water may be applied, to foment the part, or allay irritation.

DISLOCATION OF THE LOWER JAW.

This accident, in most cases, is produced by yawning, or opening the mouth excessively wide. It is sometimes produced by a blow upon the chin while the mouth is opened. The symptoms of its occurrence are, an inability to close the mouth: immediately before the ears an empty hollow space is perceived: the cheeks and temples are flattened; the spittle flows from the mouth; speech and swallowing are difficult, and the chin pro-

jects forwards. When the jaw continues dislocated several days, these symptoms are not so strongly marked, though they are still in greater or lesser degree.

To effect the reduction, the patient is to be seated on a low chair; his head supported against the head of an assistant; the operator is to defend his thumbs with a piece of leather or linen: he is then to place them as far back on the jaw teeth as he can; the fingers are then placed under the chin: and while he presses down the back teeth with his thumbs, he at the same time raises up the chin with his fingers; and then the chin is pushed backwards, when the parts become replaced very suddenly. As this is done, the operator is as quickly to move his fingers from under the teeth to the cheek. After the operation, the patient should for some days live on spoon victuals, in order that the jaw may be at rest to recover its strength.

DISLOCATION OF THE COLLAR BONE.

This accident is generally occasioned by falling on the shoulder, and is ascertained by examining with the fingers; the end of the bone being found under the skin covering the elevated point of the shoulder bone, there causing considerable projection. The patient inclines his head to the affected side, and moves the arm and shoulder as little as possible. The treatment of this accident is precisely the same with that of fractures.

DISLOCATION OF THE SHOULDER JOINT.

These are so frequent, that it is said they exceed in numbers all the other dislocations which occur in the body. The most common dislocation of this joint, is when the head of the bone is removed downwards. The symptoms of its occurrence are, a depression over the joint, while the other is found round; the arm is larger than the sound one; its direction is changed; it stands off from the body, and the patient cannot draw the

elbow close to the side; and the round head of the bone is felt under the armpit.

To reduce the bone, the patient is to be seated, and the operator is with one hand to press firmly against the projecting or upper part of the shoulder blade, and with his other grasping the arm above the elbow, he is forcibly to extend it; and very frequently the reduction takes place instantly. In other instances, it has been done by an assistant's holding back the same point or process of the shoulder bone; sometimes one or two others press their hands on that of the first, to aid in making the resistance; and the operator, with the arm bent, extends it, and reduces it. Sometimes it is necessary to make the resistance by means of a girth or band, passed over the same projecting part, and fastened to the wall; and then a napkin is to be folded around the elbow and upper part of the forearm, by which extension is to be made by assistants; when the operator, by a little moving the arm, and pushing up with one hand the head of the bone, will generally succeed in making the reduction.

DISLOCATIONS OF THE FOREARM.

The forearm is not frequently dislocated; and when it is, it is generally backwards and laterally; and arises from a fall on the hand, when extended to protect the body. In this state, the forearm is half bent; and attempts to extend it, occasion great pain.

The reduction is effected by seating the patient in a chair, when one assistant is to grasp the wrist, and the other the arm near the shoulder, each moderately extending or pulling: the operator is then, with his fingers around in front of the arm, just above the elbow, to draw it backwards, and endeavour also to push the projecting part of the elbow downwards, and consequently into its socket. But really these operations can only be properly understood and performed by those acquainted with the construction of the parts, and hence should be referred only to surgeons, with those of all the other parts of the body.

No directions can be given but those of a very general nature: When the parts are very painful or swelled, bleeding is requisite, as well as cold applications; and on making very moderate extension, slowly and long continued, the parts are to be pushed into their natural situation, as well as they can.

SMALLPOX.

This is a contagious disease, marked by a fever which is at first inflammatory, but now and then becomes of the low or nervous kind, accompanied with vomiting and occasional pain in the stomach. In a few days the fever ends with an eruption of red pimples, generally on all parts of the body. In these, in a short time after, matter is formed; and then they dry up, and leave frequently small pits, and sometimes scars in the skin.

The smallpox attacks people of all ages; but the young of both sexes are more liable to it than those who are much advanced in life: and it may prevail at all seasons of the year; but in general is most prevalent in the spring and summer. It very seldom happens that a person is attacked a second time with the disease, however afterwards exposed to its infection. The disease is divided into two kinds—the distinct and confluent. In the distinct, the eruptions are quite separate from each other; but in the confluent kind, they run much into one another.—The distinct may be distinguished from the confluent, before the eruption appears, by the mildness of its attack, by the inflammatory state of the fever, and by the late appearance of the eruption. Occasionally irregularities in this disease are to be met with in practice: sometimes in the pocks, the fluid never becomes opaque, or like common matter; small blisters appear between the pocks;—but they are only different modifications of the same disease.

The distinct and confluent smallpox are produced by breathing air impregnated with the effluvia arising from the bodies of those who labour under the disease; or by the introduction of a small quantity of the matter into the system, by inoculation: and it is probable that the variety of the smallpox is not owing

to any difference in the contagion; but depends on the state of the person to whom it is applied, or on certain circumstances concurring with its application.

A few days before the disease appears, the patient feels great languor and weariness; then follow cold shiverings and transient glows of heat, succeeded by fever, with violent pain of the head and loins, and often a severe and oppressive pain at the pit of the stomach. The person is drowsy, and sometimes delirious. Small eruptions, similar to flea bites, appear on the face, neck, and breast, about the third day. The pimples now gradually increase, and on the fifth or sixth day begin to turn white at the tops.

In young children, startings and convulsions are apt to take place a short time previous to the appearance of the eruption, and give great alarm to those not knowing the frequency of their occurrence.

This disease is to be treated, by avoiding every thing of a heating, inflammatory nature: and by keeping the subject of it in a cool, quiescent state. The diet should be of the vegetable and mildest kind; and the drinks, of a similar kind, made agreeable by the addition of the most palatable acids. The bowels are to be kept open by any of the purgative salts; and, above all, the patient is to have cool and pure air—never oppressed by clothing, or a heated room. The temperature of the chamber should always be such that he may experience no disagreeable degree of heat; but rather a sensation of cold: and, except he complains of being chilly, no fear need be entertained of carrying the cooling regimen too far. His bed should be a mattress covered only with a few bed clothes.

In the early stage of the smallpox, and during the eruptive fever, when the symptoms run high, in addition to exposing the patient freely to cool air, it has been recommended to wash the body partially or generally with cold water. This practice has sometimes lessened the headach, pain in the back, and other feverish symptoms; a moderate, gentle perspiration succeeds, and a mild eruption takes place. Where it is resorted to after the pocks have made their appearance, and by their quantity and the duration of the fever, a confluent pock is ex-

pected, the cold bath tends not only to moderate the feverish symptoms, but diminish the number of the pustules; and in doing so, greatly lessen the danger of the disease.

In most instances, little more will be requisite than to pursue the course suggested; but sometimes the fever and general inflammation run so high, (particularly in grown persons of a full and robust habit,) as to be accompanied with great heat and dryness of the skin, redness of the face and eyes, considerable difficulty of breathing, acute pain in the head; and stupor, or delirium, comes on. In such cases, it will be necessary to bleed; but in resorting to this operation, great prudence is necessary: for, should a fever of a malignant or nervous nature, follow the attack, bleeding might prove injurious. In general, local blood-letting by scarifying and cupping the temples, or the application of leeches, ought to be preferred. Where the eyes look red and fiery, or stupefaction prevails, bleeding near the part may prove a valuable remedy. The same caution should be observed with respect to the use of purgatives, for the purpose of diminishing excitement, in the distinct small-pox. They may prove serviceable if administered in moderation; but if the accompanying fever is of the nervous or low kind, then free evacuations of all sorts are improper. To empty the bowels in such cases, where costiveness prevails, we should only employ the most gentle laxatives, with the occasional use of clysters.

In cases of continued high fever, it will be proper to give small doses of antimonial medicines, as recommended for common fevers; and whenever there appears any local affection, we should endeavour to remove it by local remedies. After the subsidence of the first fever, the system remains in an inflammatory state, and a second fever is apt to ensue. The treatment of this is similar to that of all other fevers, whether of high or of low action.

COW POCK.

The cow pock consists of a single vesicle, which appears where the matter is inserted. The colour is dull white; but it is red at its edges. It contains a fluid as clear as crystal, about the eighth or ninth day. A redness or inflammation of the skin spreads to a little distance from it, about the size of half a crown. This begins to fade on the eleventh or twelfth day, and the vesicle becomes brown, and presently is covered with a glossy, hard scab, which discovers, when it falls off, a permanent scar. Now we have here, first to consider where the inoculation should be performed; and secondly, if it be complete in its effect.

In boys, it is of little consequence where the vesicle is seated, and the arm is as good as any part; but in girls it is better to inoculate on the outside of the thigh, a little above the knee. Upon the second point, there has been a difference of opinion. Parents cannot too generally know that the arm may inflame, and yet the vesicle may not be of the genuine kind. If the progress be different from the usual course, then there is always a doubt, lest it may not give security against the smallpox. If, for example, there be no red circle, or if, on the other hand, it appear early, for instance on the fifth or sixth day, and especially, if the vesicle be not round or oval, but jagged or irregular, and contain, on or before the eighth day, a turbid or white, instead of a clear fluid, it will be necessary to re-inoculate. It is possible also, that the vesicle may be of the genuine kind, but the constitution may not be fully affected by it. This cannot be determined by appearances or symptoms, but it may be by a very innocent and slight test. If on the morning of the sixth day, a second inoculation be performed on the other arm or leg, it will advance quickly, and become surrounded with a red circle, nearly as soon as the first vesicle will be. If this trial be neglected, we still have two other methods of determining, if the constitution be properly altered. The first is, by inoculating with vaccine matter, any time after the child

has recovered completely from the first inoculation; the second is by using smallpox matter. In either case, the scratch only inflames a little; it soon heals, and no other effect is produced. Without one or other of these tests, no child can be pronounced secure; for I have seen smallpox succeed cow pock, where the vesicle had all the genuine characters, and had run its course regularly. In such cases, the smallpox has been mild, though the pustules have been copious, and contained as much matter as usual. If it be asked, why every parent does not re-inoculate as a test, I can only answer, that it is from the same cause which makes many neglect insuring their property; namely, a belief that there is no great chance of its taking fire.

It has been urged as an objection against the cow pock, that it produced cutaneous disease afterwards, but this is groundless. Smallpox, on the other hand, may be succeeded by the most troublesome boils, and may irreparably affect important organs, or the whole constitution.

With regard to the treatment of cow pock, I have nothing to observe, except that the part should, when the circle forms, be dusted frequently with flour or chalk; and after the vesicle breaks, the same should be continued, in order to form a crust upon the sore, which is much better than dressing it with ointment.

CHICKENPOX.

The chickenpox is preceded by feverish symptoms, such as chilliness, quick pulse, hot skin, restlessness, diminished appetite, thirst, and headach. In some cases, the fever is severe, and attended with distressing retching, great agitation during sleep, and even delirium. In others, it is scarcely perceptible. On the third day, the eruption appears, first on the body, and then on the face, and lastly on the extremities; when the eruption appears, the fever declines. The pustules, which are very itchy, early contain a yellow matter, or liquor, and by the fifth day are covered with scabs, which leave no pits. There are different varieties of this disease, for in some the pustules are

larger than in others, or go off sooner. This is scarcely ever dangerous, and is seldom even troublesome; nor is it generally necessary to confine the patient, or do more than give one or two doses of gentle physic. The fever and uneasy feelings may be greatly mitigated, and the eruption rendered slighter, by washing the surface with cold water in the commencement of the disease. The itching may be abated afterwards, by sponging the skin occasionally with cold vinegar and water. In some cases, especially if the bowels be neglected, and the child be allowed to feed grossly, the fever may be strong, and the pustules become much inflamed. Some of them may even end in sloughs, which leave deep marks, worse than those of the smallpox, and as in that disease, so also in this, very troublesome boils may harrass the patient for a long time. This is chiefly the case in bad constitutions. I have mentioned the causes and the cure; the means of prevention, evidently consists in the use of laxatives and light diet.



ADDRESS VI.

Of the remaining Diseases of the Body.

INFLAMMATION.

IN all cases of inflammation there is an increased action of the blood-vessels, propelling the blood more rapidly and in greater quantity than usual, through the part affected; by which means there is an increase of sensibility and irritability—with an enlargement of the part, attended with a throbbing, sometimes extremely painful.

When the inflammation is confined to one part, without affecting the general system,—as in boils, abscesses, and slight wounds; it is called local or topical. But when it produces effects on the whole system, it is known by the name, general inflammation; or inflammatory fever.

There are two kinds of inflammation, very distinctly marked and differently named. The first is called erysipelas, or St. Anthony's fire: the other, phlegmon, by which you are to understand that of a common boil—where the affection is confined to the skin and the cellular membrane underneath, with a swelling or prominence in the centre of a bright red colour, attended with heat, pain, distension, and a throbbing. Persons in full health and vigour, are most subject to these inflammations; whereas those of weak, relaxed habits are most apt to be attacked with St. Anthony's fire, called erysipelas.

Inflammations terminate in various ways.

1st. By a gradual subsidence, called resolution; when all the blood that had been effused, is taken up and carried off.

2d. By the formation of matter, called *pus*; the process being termed suppuration.

3d. By the death of the part, called gangrene, or mortification.

4th. By the effusion of blood, and its consolidation into a hard tumour, called schirrous.

5th. By the secretion of a watery fluid—as from blisters, and in dropsy of the head and belly.

The remote causes of inflammations of this sort, are various irritations of a mechanical or chemical nature; wounds, bruises, acrid substances, &c. Sometimes they are the consequence of fever; and in other instances the cause cannot be traced.

When suppuration is about to commence, the symptoms of inflammation are greatly increased; the pain and throbbing become more violent; the heat is augmented; the swelling is more prominent; the colour more intense, approaching to a pale scarlet; shivering fits come on; the swelling grows softer, and matter is formed. Its fluctuations may be perceived by examining with the fingers. An abatement of the symptoms now takes place. The absorbent vessels then take up the part between the matter and surface, thereby making an opening for its escape.

TREATMENT OF INFLAMMATION.

Dr. Dorsey very judiciously classes the treatment under the heads of constitutional and local. Those which act on the constitution, are,

1st. *Blood-letting*. This is a most powerful remedy. The quantity of blood to be drawn, and the frequency of its repetition, are to be regulated by the violence of the inflammatory symptoms. Whenever parts essential to life are inflamed—as the brains, lungs, and contents of the belly; copious bleedings become more necessary.

2d. *Low Diet*. This not only diminishes the fulness of the vessels, but lessens the irritation, and is to be strictly enjoined.

When the disease is attended with an accumulation and discharge of humours from the lungs, it is called the humid asthma; but when it is not attended by expectoration, it is called the dry or spasmodic asthma.

On the evening before an attack of asthma, the spirits of the patient are much affected, and he feels a sense of fulness about the stomach, with lassitude, drowsiness, and a pain in the head. On the approach of the succeeding evening, he perceives a sense of tightness and stricture across the breast, and a sense of straightness in the lungs, impeding respiration. The difficulty of breathing continuing to increase for some length of time, both inspiration and expiration are performed slowly, and with a wheezing noise; the speech becomes difficult and uneasy; a propensity to coughing succeeds; and the patient can no longer remain in a horizontal position, being, as it were, threatened with immediate suffocation.

These symptoms usually continue till towards the approach of morning, and then a remission commonly takes place: the breathing becomes less laborious and more full; and the person speaks and coughs with greater ease. If the cough is attended with an expectoration of mucus, he experiences much relief, and soon falls asleep.

When he awakes in the morning, he still feels some degree of tightness across his breast, although his breathing is probably more free and easy; and he cannot bear the least motion without rendering this more difficult and uneasy; neither can he continue in bed, unless his head and shoulders are raised to a considerable height.

Towards evening, he is again drowsy, is much troubled with flatulency in the stomach, and perceives a return of the difficulty of breathing, which continues to increase gradually till it becomes as violent as on the night before.

After some nights passed in this way, the fits moderate, and suffer more considerable remissions, particularly when they are attended by copious expectoration in the morning. This continues from time to time throughout the day; and the disease going off at last, the patient enjoys his usual rest at night, without further disturbance.

During the fits, the pulse is not usually much affected; but in a few cases, there is a frequency of it, with some degree of thirst, and other feverish symptoms. In some persons, the face becomes turgid and flushed, during the continuance of the fit, but more commonly is pale and shrunk. Urine voided at the beginning of a fit, is generally in considerable quantity, and with little colour or odour; but after the fit is over, what is voided is in the ordinary quantity, of a high colour, and sometimes deposits a sediment.

Asthma is brought on by almost every thing which can increase the action of the heart, and which stimulates and fills the vessels of the mucus membranes of the lungs. Thus a fit may be produced by heat, lightness of air, severe exercise, strong mental emotions, full meals, stimulating drinks, exposure to severe cold, and by certain effluvia, as those of hay, whether new or old, of sealing wax, and other burning substances, &c. In some instances, it proceeds from an hereditary predisposition; and in others, from mal-conformation of the chest.

The immediate cause of the disease has, by Dr. Cullen and most other writers, been supposed to be a preternatural or spasmodic construction of the muscular fibres of the windpipe, which prevents its being so dilated as to admit of a free and full inspiration, and gives a rigidity which interferes with a free and full expiration. The mucus which is excreted in the course of the disease, has been looked upon by Dr. Cullen as only an effect of the disease; but others believe it to be the prominent cause of the fit.

Asthma usually diminishes as soon as a mucus secretion begins to take place in the lungs, and is more speedily and effectually relieved by a spitting of blood. These are convincing proofs of a preternatural fulness of the vessels of the mucus membrane of the lungs, so as to impede free respiration, and to produce all the symptoms of spasmodic asthma.

The sudden accession of the fits, generally after the first sleep; their returning at intervals; the sense of constriction about the chest, occasioning the patient to get into an erect posture, and to fly for relief to the cold air; will readily distinguish asthma from other diseases.

• In the treatment of asthma, we should endeavour to moderate the violence of the fits, and when they are subsided, to hinder their recurrence. With the view of preventing any danger from the difficult transmission of blood through the lungs, and of obviating the full state of the system, which might be supposed to have a share in producing a turgescence of the blood in the lungs, it is a frequent practice to draw off blood during the fit; but bleeding has proved highly injurious in almost every instance of the disease, by delaying the expectoration, and is certain to be attended with bad consequences, where asthma has arisen in elderly persons, or has been of long standing. In full, strong habits, possibly cupping or the application of leeches to the chest, might afford relief.

To moderate the severity of the fits in asthma, we cannot employ a more powerful mean of relief, than the inhaling of warm steam, frequently, from the spout of a tea pot. An infusion of chamomile flowers, with the addition of a little ether, may be used on the occasion.

In spasmodic asthma, smoking tobacco has in some cases proved very beneficial. The tincture of fox-glove, in repeated doses, has been recommended, with or without half a grain of opium. Some have found great relief in smoking the leaves of the Jamestown weed.

RHEUMATISM.

This disease is divided into the chronic and the acute: being known by the former appellation when there is no great degree of inflammation or fever, but merely pains; and by the latter when both fever and inflammation exist.

It may arise at all times of the year; but the Spring and Autumn are the seasons in which it is most prevalent. It attacks persons of all ages, but very young people are more exempt from it than adults. Those whose employments subject them to exposures to great heat and cold, are particularly liable to Rheumatism.

Obstructed perspiration, occasioned by wearing wet clothes, lying in damp linen, sleeping on the ground, or by being exposed to cool air when the body has been heated by exercise, or by coming from a crowded room into the cool air, is the cause which usually produces Rheumatism. Those who are much afflicted with this complaint, are very apt to be sensible of the approach of wet weather, by wandering pains about them at that period.

Chronic Rheumatism is attended with pains in the head, shoulders and other large joints, which at times are confined to one particular part, and at others shift from one joint to another without occasioning any inflammation or fever; and in this manner the complaint continues often for a considerable time, and at length goes off, leaving the parts which have been affected in a state of debility, and liable to fresh impressions on the approach of bad weather.

In the treatment of acute Rheumatism, it is necessary to obviate the general inflammation which prevails: and this is to be effected by mild diet and drinks; by blood-letting when there is a fulness of the pulse, the constitution robust, and the heat considerable,—proportioning the quantity we take away, to the violence of the symptoms, and the age, strength, and habit of the patient. If the pains continue very severe, and the pulse full, hard, and quick, after bleeding; and the blood appears very sily on becoming cool, we may with great propriety repeat the bleeding either on the same day or the next; but this mode of proceeding should be adopted only at an early period of the disease, and never carried to an extent endangering extreme debility. Sometimes the violence of the fever has been much lessened, by giving from ten to twenty drops of the tincture of fox-glove every four or five hours; and this may render any repetition of bleeding unnecessary. Purging should be carried to an extent equal to that of bleeding, and one or two evacuations should be procured daily in all cases, by making use of some mild laxative, such as the neutral salts, &c. or by giving clysters.

When the pain is chiefly confined to one part, and is not attended with much inflammation, blistering may be serviceable.

The part should be anointed with some kind of liniment—such as two ounces of camphorated spirits with half an ounce of volatile alkali, or three ounces of olive oil mixed with one of oil of turpentine and fifteen drops of sulphuric acid; or spirit of hartshorn or of turpentine alone, will prove serviceable. But where the pains are wandering, neither of these remedies will be of much use. In acute rheumatism, warm fomentations ought never to be employed: as they are found to aggravate the pains, rather than relieve them.

When any of the joints of the extremities swell very much, and are highly painful; besides drawing blood from the part with leeches, or by cupping, a blister is to be applied over the whole joint, or it is to be rubbed with tincture of Spanish flies and the volatile alkali, mixed in equal parts. One pound of rye flour mixed with four ounces of stale beer or vinegar and two ounces of muriated natron, made into paste with hot water and applied to the part affected,—to be renewed morning and evening—Dr. Thomas states has often relieved the pain.

The reduction of heat by keeping linen cloths wetted in cold water, or a solution of crude sal ammoniac with a little salt petre, constantly to the inflamed parts, may be adopted with safety and much advantage in acute rheumatism; although in gout, to which the disease is so nearly allied, the remedy is hazardous. Sweating is frequently resorted to, both in the acute and chronic rheumatism, and often with great success; but it has its inconveniences: for sometimes it comes out freely without producing any good effect, and when long continued, it relaxes the skin and makes the patient susceptible of cold; to guard against which, it will be necessary for him to be confined to his chamber and to wear flannel next his skin. Small doses of tartar or Dover's powders, repeated, are the best means to excite sweating. In acute rheumatism, the patient must be kept on a cool spare diet, as milk, whey, buttermilk, light vegetable matters, panado, ripe fruits, &c.; animal food and fermented liquors should be avoided.

The chronic rheumatism must be treated in a different manner: here, bleeding from the system will not be proper: nor need there be any change in the diet of the patient.

Where the parts about the joints are the seat of the disease, or an enlargement of the extremities of the bones has taken place, the first attempt at relief should be by local bleeding, either by the application of leeches or by cupping. When the pain and irritation are abated by this operation, a drain should be secured from the part by the aid of issues, kept open by the daily application of weak ointment of Spanish flies or with caustic.

Exposure of affected parts to the hot vapour of water, sometimes of vinegar, for an hour or two, has done great good. It is to be daily repeated.

In most cases it will be adviseable to rub the parts where the disease is seated, several times a day, with some of the irritating liniments recommended, after which they are to be wrapped up in flannel. The regular use of a flesh brush, with electricity, or galvanism, is often of service in cases of long standing, and where there is any rigidity of the parts. Rubbing the part with a ball of cotton, has been done with great advantage: it generates electricity on the surface.

Exercise is highly important, either of the whole body, or of particular limbs; and indeed the want of it is apt to induce stiffness in the parts affected.

Frictions with ether, or camphor dissolved in ether, on the painful parts, have been found highly beneficial. Warm bathing or pouring warm water upon the limb from a kettle several times a day, has in many instances proved very serviceable, together with proper exercise when the patient is capable of taking it. The patient may remain in the warm bath from twenty to sixty minutes: and when in it, his skin should be well rubbed with a hair brush. The temperature of the bath may be varied at pleasure from ninety to one hundred degrees.

Cold bathing has been advised by some Physicians, while others, have disapproved of it. It certainly has in some cases proved salutary. The cold bath is a stimulant, and promotes perspiration, and by strengthening the body prevents a relapse: But it is not to be used, where there are any feverish symptoms.

The shower bath with subsequent frictions and warm clothing, will be found not only a successful mean of cure in many cases of chronic rheumatism; but also a very effectual preventive. Some tonics, internally given, have proved serviceable in prevention.

OF THE GOUT.

Upon this subject, Dr. Rush, with his usual accuracy of observation, states that it is a disease of the whole system, affecting occasionally every part of the body. The idle and luxurious are most subject to it—women as well as men. It is in some cases a hereditary disease, more frequently received from the father than the mother. The remote causes are indolence, great bodily exertion, intemperance in eating and venery, acid food and drinks, strong tea and coffee, vexation, violent passions, study, business, or pleasure, and most frequently the use of ardent and fermented liquors.

It generally makes its first attack in the night, and in the parts most remote from the heart, especially the big toe. It is a disease analogous to fevers, attended with irregular action in the blood-vessels.

The ligaments which connect the bones, are the seats of what is called the legitimate or true gout. They are affected with pain, swelling, and inflammation: the pain being sometimes so severe as to be compared to the gnawing of a dog. Dr. Rush says that it is the same disease with the rheumatism. These diseases are produced by different remote causes: but this constitutes no more difference in their nature, than is produced in a coal of fire, whether it be inflamed by a candle, or a spark of electricity. Each disease is frequently marked by a chalky secretion in the joints, and actual dislocations of the joints. He compares the gout to a monarch whose empire is unlimited: the whole body crouches before it. It affects different parts of the body in different people, according to the nature of their predispositions; and it often passes from one part to another in the twinkling of an eye.

The remedies for the gout, Dr. Rush divides under the following heads:

1. Such as are proper in its forming state.
2. Such as are proper in violent morbid action of the blood-vessels, and contents of the brain, chest, and belly.
3. Such as are proper in a feeble morbid action in the same parts of the body.
4. Such as are proper to relieve certain local symptoms.
5. Such as are proper to prevent its recurrence.

The symptoms of an approaching fit of the gout, are great languor and dulness of body and mind, dozing, giddiness, wakefulness, disturbed sleep, a dryness, and sometimes a coldness, numbness and prickling in the feet and legs, a disappearance of pimples in the face, occasional chills, acidity and flatulency in the stomach, with an increased, a weak, or defective appetite. Sometimes the urine becomes sour. In this state of the disease, it may be readily prevented by losing a few ounces of blood, or taking a purge and bathing the feet in warm water, by a dose of the spirit of hartshorn, by a draught of wine whey, or a common dose of laudanum.

The remedies proper in cases of great morbid action, are blood-letting—and it should be carried to an extent equal to the violence of the attack, in order to lessen the pain and congestions which produce apoplexy, palsy, inflammation of the kidneys and bladder, the gravel, and chalk stones in the hands and feet. Free purging is no less necessary: and it may be made by sulphur, oils, cream of tartar, jalap, or calomel. Salts are generally offensive to the stomach. Vomits may be given in all cases where bleeding is objected to. Nitre in common doses may be administered. Diluting liquors, such as are prescribed in common fevers, should be taken; cold air should be admitted to the parts inflamed; abstinence from all that is heating should be enjoined. Blisters are an invaluable remedy in this disease, after the reduction of the morbid action by evacuations; they are to be applied to the joints of the feet and wrists in general gout, and to the neck and sides when it attacks the head or breast. The principal advantage of blisters is derived from their collecting and concentrating scattered and painful

sensations, and conveying them out of the system. Fear and terror have sometimes cured the disease in a few minutes. Dr. Rush further adds that sweating is injudicious, unless it be from giving the Seneca snake root. Opium may be given in small doses after the violent action is reduced.

To moderate the pain, if blisters be objected to, a cabbage leaf has done good, and also bathing the part with molasses. The sooner a patient exercises his lower limbs, by walking, after a fit of the gout, the better; as it will prevent the stiffening of the joints.

In cases of feeble action in the system, an opposite treatment is necessary; opium, wines, porter, and ardent spirits are proper. In some cases a pint of spirit has been given, with advantage, in the course of an hour. Large doses of ether may be tried; volatile alkali and all the aromatic substances; also the oil of amber, and Peruvian bark if the stomach will retain it.—Frictions should be tried, with brandy and the volatile liniment. The warm bath is proper; as also exciting salivation.

The headach is a distressing symptom, and is to be relieved by cupping, and cold applications to the head and blisters behind the ears. Persons have been cured by sleeping with the head covered with flannel. Dull, but constant, pains in the limbs yield to frictions with balls of cotton or wool, volatile liniments, wearing flannel next the skin, electricity and galvanism. Rubbing the limbs with castor oil, and wrapping them up in hot sand, have been useful; also, taking two or four tea spoonsful of the spirit of turpentine every morning, mixed with three times the quantity of honey, for eight or ten days, and each night to be followed by an anodyne. A gouty diarrhœa should be treated as one from any other cause. Spasms in the stomach and pains in the bowels, often seize gouty people very suddenly; for which ten or twenty drops of laudanum may be given, with hot toddy or spiced wine. The piles are not an unusual attendant, and are to be treated as when arising from other causes; as also eruptions of the skin. But in treating all local affections from gout, care should be taken to ascertain if they did not relieve affections of more vital parts, in which

case great caution should be observed, and counter irritations produced in the system.

The predisposition to gout is best overcome by very moderate living and great industry; avoiding exposure to cold: the passions should not be freely indulged, especially the venereal; costiveness ought always to be corrected, and sulphur is esteemed the best laxative. Issues have sometimes succeeded. A change of diet, removal to warmer climates, the use of the preparations of iron, and the warm bath, will be found serviceable in giving a permanent tone to the system, to prevent returns of this painful disease.

INFLUENZA.

The symptoms of influenza are, a hoarseness, sore throat, a sense of weariness, chills and fevers. It is sometimes attended with acute pains in the head, soreness of the eyes, and swelling of the eye-lids, and a copious effusion of water from the eyes. Sneezing is a most general symptom, and the matter discharged from the nose frequently is so acrid, as to inflame the nostrils and upper lip. Difficulty of breathing, considerable cough, and pains in the breast and sides, are frequent attendants on this complaint. The limbs are sometimes so affected, as to resemble rheumatism. The pulse is sometimes quick and hard.

The treatment is the same as in all fevers, to be regulated by the state of the system. In cases where there appears much symptoms of inflammation, bleeding and purging are proper. Where the symptoms are not distressing, a moderate vomit will suffice. Small doses of laudanum, with a quarter of a grain of tartar emetic, are proper to lessen the cough. A mixture of ten grains of the vegetable alkali in a tea cup of a solution of liquorice in water, will be found of service in lessening the cough, with a few drops of laudanum. The diet should be mild; and in its worst stages, the patient should be confined to the house, and occasionally bathe his feet, and breathe the steam of water, with or without vinegar. In short, the disease in its general form should be treated as a common cold; de-

pending on no states of the weather, and more rapid than any other in spreading over the most extensive countries.

COLD AND CATARRH.

The inhabitants of every climate are liable to cold at different seasons of the year, particularly when the changes of the surrounding atmosphere are sudden, and of considerable extent. The persons most subject to this disease, are those of delicate and irritable constitution, and whose employments expose them to great transitions from heat to cold.

A cold is attended with a weight or uneasiness in the head, fulness and oppression at the chest, a sense of distension and stopping up of the nose, followed by a secretion of mucus from the watery, inflamed eyes; soreness of the throat; cough, with expectoration of mucus; cold shiverings, succeeded by transient flushes of heat, and pain in different parts of the body, very frequently the chest.

This disease is not generally attended with danger, when appearing under a mild form, and early precautions are used.— If the symptoms should be highly inflammatory, and the constitution of the patient delicate and irritable, the most vigilant attention is demanded, in order to arrest the progress of the disease; otherwise the most serious consequences may ensue. It is by such neglect that two-thirds of the cases of consumption and other pulmonary affections, in this country, arise.

When a person finds himself much indisposed from exposure to cold, he should at once confine himself to the house; use a spare, mild diet; drink barley water with lemon juice in it, or any other warm diluent, or mucilaginous drinks, and particularly avoid eating or drinking any thing stimulating to the stomach. Previous to going to bed, put the feet in warm water, and take warm whey or some other sweating draught; the warm bath may also be applied with great advantage to the face, and hot vapour breathed into the nostrils; after which, the head should be kept warm during the night: by this means, the uneasiness in the head and stopping up of the nose are of-

ten effectually relieved. If the bowels should be costive, it will be necessary to take some gentle laxative medicine every day. When the symptoms do not yield to this treatment in a few days, and the cough, breathing, or pain in the chest, should indicate inflammation, it will be necessary to draw blood in proportion to the urgency of the symptoms, to keep up the evacuations from the bowels, and to give sweating medicines. The antimonial preparations should always be preferred; they not only produce perspiration, but possess a peculiar power of calming the excitement of the system.

If these means should not relieve the uneasiness in the chest, it will be adviseable to apply a large blister over the breast, and to keep up the irritation and discharge from it as long as the cough and uneasiness in the chest continue.

After the inflammatory symptoms have subsided, the irritation producing the cough may be allayed by opium, conjoined with antimony; laudanum and antimonial wine is a good combination, taken in warm tea; Dover's powder, in doses of five grains, is also an excellent form of exhibiting an anodyne in this stage of the disease.

This disease differs very little from influenza, excepting that it is not contagious. The treatment, in short, is much the same, to which subject you will refer.

I have to remark, that a remedy of no common efficacy is scorching the feet before the fire every night. This should be done so long as it can be borne without too much pain. They should frequently be held to the fire, and cooled; thereby a determination of blood and action will be directed to them.—Scalding in equal degree the feet in strong lye, is a good substitute. A violent fit of coughing is frequently relieved, as in the whooping cough, by pouring a tea spoonful of warm oil or melted lard at the back of the throat. One of the most common cough drops is made of one ounce of liquorice, dissolved in a quart of boiling water, to which is to be added one ounce of antimonial wine, and two ounces of paregoric, or near half the quantity of laudanum; a wine glass full to be taken on going to bed. Wearing a large pitch plaster on the side, will be found serviceable.

A CONTINUED COMMON COUGH.

This is generally the effect of a cold neglected, or improperly treated. Sometimes it arises from indigestion, or irritable matter in the stomach and bowels.

A common cough ought always to be viewed as a serious disease, and should never fail to excite the fear and anxiety of the patient and friends. By early and vigilant attention to this disease, thousands of lives might be saved, which otherwise are destroyed by pulmonary consumption. When a cough is troublesome, accompanied by pain or oppression about the chest, and dry skin, without coughing up mucus, it will always be adviseable to take blood from the arm until the pulse is reduced, or some impression is made on the system. If the feebleness of the constitution should forbid this, cupping the sides freely should be done, or twenty or thirty leeches applied to the chest, followed by a blister on the back or side, which will generally produce the desired effect. When much mucus is spit up freely, attended with a moist skin, it would not be adviseable to resort to bleeding.

If the expectoration is scarce, or impeded by tough phlegm, and attended by a hot, dry skin, the best medicine which can be given, after bleeding, is the tartar emetic, in doses of a quarter or half a grain, exhibited in warm mucilaginous drinks, and repeated every two or three hours, unless it should excite puking or purging: in either case, a few drops of laudanum will check the operation, and also tend to calm the irritation producing the cough. James's powder, or its substitute, the antimonial powder, given in doses of three or five grains, every three hours, is also an important remedy, and not apt to excite vomiting. Sometimes a cough is brought on, and kept up, by a deranged state of the digestive organs; and unless the remedies are directed to them, our efforts to cure the disease will prove unavailing. Great attention should be paid to the diet in general, and the drinks should be of the mildest kind, and best suited for the habits of the subject. All spirituous or stimulating drinks, should be prohibited. Sometimes drinking an

acid, sometimes an alkali, will afford relief. Lime water is a good substitute for the latter. I refer you to all the articles under the head of indigestion, for the treatment of cases arising from defect in the powers of the stomach.

Whenever the cough is a symptomatic affection of other diseases, in all such cases we should direct our remedies to the original seat of disease; and here, the advice of an experienced physician should always be requested.

Some persons are subject, during different seasons of the year, to a chronic or habitual cough, attended with shortness of breath, wheezing, and an expectoration of tough phlegm.— In all such cases, the mixture of gum ammoniac with syrup of squills, and elixir paregoric, taken occasionally during the day and night, may be used with advantage, particularly when aided by breathing the vapour of vinegar and water, spirit of camphor, or any other mildly stimulating vapour. A poultice of onions, with a little mustard, or of any other stimulating kind, applied over the chest, will also prove valuable auxiliaries; as well as garlic to the feet, and very hard rubbing of the extremities.

There is certainly much repetition on the subjects of a continued common cough, colds and catarrhs, and influenza; but there is not too much of it, if it will induce all subject to affections of the breast, especially those of narrow chests and long necks, whenever having any of the varieties of such complaints, to pay very serious attention to them until they are relieved.— They end so often in consumption, that no one should neglect them; nor can I too often urge you, in all such cases, to relieve the lungs by determination to the surface, by cupping, blisters, frictions, and riding on hard trotting horses, when there is no fever.

CONSUMPTION.

I shall continue to extract from Dr. Rush on this subject. It is a disease induced by predisposing debility, and is a primary disease of the whole system. The remote and exciting causes

are, inflammatory affections of the lungs, rheumatism, gout, scrofula, affections of the stomach, liver, and kidneys, fevers, repelled irritations from the surface of the body, the venereal disease, sudden growth about the age of puberty, all weakening passions of the mind, excessive evacuations of all kinds, particularly by spitting from the smoking and chewing of tobacco, and by stool, exposure to cold and damp air, extreme violence on the body; and, to conclude, all that tends to diminish the strength of the system.

Consumption frequently alternates with others, as rheumatism, gout, madness, the womb in pregnancy, headach, indigestion, eruptions of the skin, affections of the bowels, &c. It is not of a contagious nature, but is common in families inheriting the predisposing debility.

The cure of consumption should always be attempted in its forming state, before it produces the active symptoms of cough, blood, or rather matter from the lungs, or inflammatory or hectic fever. The symptoms marking its first stage are seldom observed, and if observed, too much neglected. They are a slight fever, increased by the least exercise; a burning and dryness in the palms of the hands, more especially towards the evening; running eyes upon waking from sleep; an increase of urine; a dryness of the skin, more especially of the feet, in the morning; an occasional flushing in one, and sometimes in both cheeks; a hoarseness; a slight or acute pain in the breast; a fixed pain in one side, or shooting pains in each side; headach; occasional sick and fainty fits; a deficiency of appetite; and a general indisposition to all exercise or motion.

The remedies for this stage of the disease, are simple and certain. They consist in an abandonment of all its remote causes, as sedentary employments, damp or cold situations, and whatever tends to weaken the system. Dr. Rush has, with great benefit to his patients, in this stage, prescribed the cold bath, steel, and bark; which would prove injurious when the system assumes an inflammatory or hectic state. To these remedies are to be added a diet moderately stimulating, and such gentle exercise as keeps all parts of the body in motion.

If these simple means are not resorted to, consumption will show itself in one of the three following forms:

1. A fever, accompanied with a cough, hard pulse, and a discharge of blood or mucus from the lungs.

2. A fever, of the hectic kind, accompanied by chilly fits, and night sweats, with a pulse full, quick, and occasionally hard. The discharge from the lungs in this state of the disease is usually matter.

3. A fever, with a weak and frequent pulse, a troublesome cough, and copious purulent discharges from the lungs, a hoarse and weak voice, and chilly fits and night sweats alternating, with a looseness of the bowels.

For the inflammatory state, the first most important remedy is blood-letting. Dr. Rush states cases in which this has been done with most incredible frequency. It is most adviseable to take small quantities at a time, and repeat it often—as often as the patient is found with tense or hard pulse.

Mild diet, consisting chiefly of milk and vegetables, is to be preferred—to be eat four or five times in the day. Vomits have been recommended very highly, to be repeated once or twice a week where bleeding is objected to. Exercise, by walking in cool and dry air, is to be taken.

For the hectic state of consumption, Dr Rush observes the treatment must depend on the varying state of the system, which changes in a few days from high to low action. Bleeding in small quantities may be made, when the pulse is hard and there is severe pain in the side. The common tonics may be taken when the system is reduced.

For the low or nervous state in this disease, stimulating medicines are requisite: opium is very necessary; garlic, a strong tea of horehound, doses of oil of amber and of turpentine, of the balsams and bitters of all kinds, may be administered. The Peruvian bark is of most service to those whose consumption arises from the ague and fever. Not less necessary, is a different diet.—Instead of milk and vegetables, it should consist of cordial and stimulating food—of which, the best will be that to which the patient is most accustomed.

The palliative remedies above mentioned, may be aided in each state of the system by selecting a dry situation; by country air, change of climate, loose dresses and a careful accommodation of them to the changes in the weather. Evacuations by means of blisters and issues on parts affected previous to the disease from gout and rheumatism; sleeping between blankets in winter, and mattresses in summer; the *moderate* use of the lungs in reading, singing, speaking, and laughing; the passions of fear and terror, and salivation; have each aided in some instances, in effecting a cure.

The distressing cough in this disease, is to be mitigated by the common mucilaginous drinks, by opiates, by vapours from pouring boiling water on tar and bran, the most easy position of the body, and by silence.

For the night sweats, drinks of the elixir vitriol, of the nitric acid, of lime water, or of water-mellon seed tea, are recommended.

For the looseness, the same remedies should be given which are prescribed under the head of looseness or diarrhœa, as an original disease. Chalk and laudanum in mucilage, are preferred where acidity exists in the stomach.

The radical remedies for consumption are: exercise, hardships of a camp or naval life. Many have been relieved by the labours of cutting wood which excites action on the breast; rocking in a cradle, swinging, sailing, riding in carriages, and on horse back, walking, running and dancing, have severally relieved, when taken each in such succession and degree, as are adapted to the state of the patient. The more the arms in general are used the better. In consumption of long continuance, or of great danger, long journeys on horse back, are the most effectual modes of exercise. The patient should avoid fatigue and travelling too soon in the morning: and if he rests in the day, he should undress as at night and avoid damp bedding: avoid large or night companies; guard against the extremes of heat or cold. The journey should be pursued for twelve months at least, and repeated every two or three years. Many ride every day, more or less.

The above is an epitome of Dr. Rush's thoughts and directions on the subject. I have to add, that I believe it is as much a disease of the skin as of the lungs. We are forcibly struck with the appearance of all consumptive persons—their skin shrivelled and altered in colour. I would recommend powerful frictions on the surface, and dry cupping the body from head to foot: commencing with one-fourth of it, and continuing it daily in equal proportion, and to be renewed as long as the disease lasts. A more effectual mode of cupping will be found by using an air pump, attached by a bladder to a tin tube large enough to receive the limb, if not half the body. Wet bladders can easily be applied to the limb and tube, so as to exclude the external air, while that of the interior can be extracted as long as it can be borne. I have had such a contrivance made at a moderate expense: and would strongly recommend the use of such a one, as I have found great good from it, in some internal affections—though have never tried it in consumption.

After the above was sent to the press, I received the subjoined on the subject, from Dr. HENRY HUNTT, formerly Hospital Surgeon of the late United States' Army, and now extensively engaged in the practice of physic in the city of Washington. Although there are some remarks in it which will be found in the above, it contains something original and important; and my anxiety on this subject induces me to insert the whole.

This disease is known by a wasting of the body, attended with a cough, difficulty of breathing hectic fever, and generally with a spitting of purulent matter, either from turbercles, (small tumours) or abscesses in the lungs. Sometimes a general inflammation of the mucus membrane of the lungs, will produce this discharge. Pulmonary consumption is a most insidious disease, and steals on so gradually, that no alarm or uneasiness is excited until it makes considerable progress, and the constitution is generally impaired. The patient at first becomes languid and gradually loses strength; the breathing is hurried by the least bodily exertion; the pulse becomes small, and quicker than natural; and at length, from any little exposure to cold, or other exciting causes, the breathing is more

copious, a sense of tightness and oppression at the chest are experienced; the cough becomes more troublesome, particularly during the night; an expectoration of frothy mucus takes place, which is usually most considerable in the morning, and afterwards becomes more copious, viscid, and opaque.

As the disease advances, a pain is perceived in the chest, or one of the sides, which is increased by laughing, and the patient is sometimes unable to lay on the affected side. The face now flushes; the pulse is quick and hard, frequently amounting to 120 strokes in a minute; the urine is high coloured, and deposits a muddy sediment; the palms of the hands and soles of the feet are affected with burning heat; the tongue, from being at first white, is now clean, but red; and purulent matter is spit up from time to time, by coughing. The symptoms increase considerably towards evening, and the fever now assumes the hectic form, having an aggravation of its symptoms twice a day: the first about noon, which is inconsiderable, and soon suffers a remission: the other in the evening, which increases gradually, until after midnight. Each increase of feverish symptoms is usually preceded by some degree of shivering, and terminates in profuse perspiration.

During the fever, a redness generally appears on each cheek; but at other times, particularly when the disease arises from a deranged state of the digestive organs, the face is pale, the countenance dejected, and the white part of the eyes assume a placid, pearly appearance; general emaciation takes place, the cheek bones are prominent, the eyes hollow and languid, the whole countenance assumes a cadaverous appearance, the nails are incurvated, and of a livid colour, the legs swell, and the mouth and throat are affected with the thrush. About this time a purging generally comes on, which frequently alternates with profuse sweating. Still, however, the appetite often remains good, and the patient has a craving for solid food, from which circumstance, he is apt to flatter himself with the hope of a speedy recovery, and often vainly forms distant projects of amusement, or interest, when at last death closes his existence.

The time persons are most liable to this disease, is generally between the fifteenth and thirty-fifth year of age; but no stage of life, from infancy to old age, is exempt from it.

Consumption is readily distinguished from all other diseases by the hectic fever and free expectoration which attend it.—Pure purulent matter is opaque, of a fœtid odour, of greater specific gravity than water, as when put into it, it sinks to the bottom of the vessel. Its colour is either white, yellow, or green; when dissolved in sulphuric acid, if water be added, it either falls to the bottom, or forms an intimate mixture, making the whole uniformly turbid.

Mucus is transparent, viscid, not mixable with water, and it does not smell; upon adding water to its solution in sulphuric acid, it separates into small flakes and floats upon the surface. Such are the tests by which any person may readily distinguish the difference between purulent matter and mucus when expectorated.

In the treatment of pulmonary consumption, our success mainly depends on the early and persevering application of the remedies; whenever there is cough, accompanied by pain or uneasiness in the breast or either of the sides, with febrile symptoms, our suspicions should be immediately roused, and our unremitted attention directed to the complaint, particularly if the constitution of the patient is delicate and irritable, or he should possess any predisposition to this disease, either from ancestors or from any other cause. In the first place, the patient should lose blood, and the quantity taken should be regulated by the strength of the constitution and habits of the patient. This operation should be repeated every two or three days until the symptoms are arrested. The most abstemious diet should be rigidly enforced; the bowels should be kept moderately laxative; and in order to calm the cough, fever, and irritation of the system, some antimonial preparation should be administered in warm mucilaginous drinks, and repeated every two or three hours. In all such cases, the tartar emetic should be preferred, in doses of half a grain, to be gradually increased until the symptoms shall abate. If it should affect the stomach or bowels, add a few drops of laudanum to each

dose. This medicine, by proper precautions, may be increased considerably, with great advantage, in this stage of the disease. When the inflammatory stage is reduced, blistering the breast and sides, also cupping, will prove of great importance; but to ensure their full effect, the irritation and discharge they produce should be kept up for a considerable time. The sulphate of copper (blue vitriol) is sometimes a proper and efficacious remedy, given in doses of one or two grains united with a grain of ipecacuanhæ and the same quantity of rhubarb, made into a pill, and repeated two or three times a day, agreeably to the effects. Should the cough be troublesome at night, the patient should inhale vapour arising from warm water, with a little vinegar added to it, and afterwards take five or six grains of Dover's powder, or twenty drops of laudanum with the same quantity of antimonial wine, mixed in some warm mucilaginous drink. If a spitting of blood from the lungs, should occur in consumption, the patient ought immediately to lose blood from the arm, in such quantity as the strength of the constitution will bear, and have a large blister afterwards applied over the chest; he should be kept as quiet as possible, and take cold acid drinks; if these means should not stop the bleeding, take two grains and a half of opium made into a pill with bread or syrup, and repeat them every two or three hours, until the bleeding is checked, always taking care after using these pills to give some purgative the succeeding day. If the patient resides in a close situation, in a large town, or contiguous to the sea shore, he had better exchange it for one in the country, where he can breathe a free, pure air, and should daily take as much exercise as his strength will admit of when the weather is favourable. The best exercise is riding gently on horseback, but if the motion excited thereby is found to fatigue, he should substitute the use of a carriage. In whatever way exercise is taken, the greatest care must be observed to guard against cold in any way whatever, either by getting wet or by an exposure to night air. Flannel should be worn next to the skin in winter, and this be changed for calico during the summer months if unpleasant.

When the patient's circumstances will admit of his removing in the early stage of consumption, and before sores are formed in his lungs, he should go to a warmer climate; in doing this, he should most carefully shun all situations exposed to the sea, and confine himself, while on shore, entirely remote from sea breezes; for it is a singular fact, that, while consumptive persons are benefited by the sea air, when they breathe it on the ocean, they are always injured by a mixture of land and sea air. It is also a fact, that those situations contiguous to bays and rivers, where the salt and fresh waters mix their streams together, are more unfavourable to consumptive patients, even than the sea shore. Much has been said in favour of a residence in the South of France, in cases of pulmonary consumption: but late experience has proved that all situations contiguous to the shores of the Mediterranean, are unfriendly to patients labouring under this disease. In recommending travelling to consumptive patients, I wish it to be understood that this advice applies only to the early stage of this disease. On the contrary, when the disease is far advanced, the patients should never quit their own country; for, by leaving it, they will separate from many comforts, and probably be deprived of the attention and society of their dearest friends, as well as the attendance of professional men, in whom they have been accustomed to repose the greatest confidence.

There is a species of this complaint called *Dyspeptic Consumption*. This form of disease is much more common than is generally supposed. It is usually preceded by symptoms of indigestion, and particularly by those which indicate some disorder in the secretion of bile. Contrary to what is usual in other species of the disease, the spirits from the beginning are more or less depressed, and the countenance is sallow. [The disease the Doctor here describes has its seat in the liver, unquestionably.]

The cough at first is usually dry, or the patient brings up a little mucus, after a severe and often long continued fit of coughing, which seems to be rather the effect of the irritation of coughing, than any thing which had previously existed in the lungs; for the cough, in this species of consumption, par-

ticularly in the early stage, frequently comes in violent fits.— These fits, particularly on lying down, are apt to occur after the patient has eaten, especially if much has been taken, or if of any thing disturbing digestion. In many cases, they are more apt to come on when he lies on the left side. As the disease advances, the cough becomes more frequent, returns less decidedly by fits, and is attended by a more copious expectoration.

Bloody expectoration is by no means uncommon in this species of consumption. Blood often appears early in the disease, mixed with colourless phlegm. After the pus-like expectoration commences, if blood has not previously appeared, it is much less apt to appear than in other forms of the disease.

While the blood is mixed only with a transparent fluid, there may be good hopes of recovery,—certainly better than under the same circumstances in any other species of consumption. A similar observation applies to the pus-like expectoration. If there be no admixture of blood, there may be good hopes of recovery, if the disease has not lasted long.

The breathing, in the earlier stages of this species of consumption, is sometimes more oppressed by the recumbent posture, than in other forms of the disease, and is more frequently attended by a sense of tightness across the pit of the stomach. It is very rare, except in the advanced stages, that there is much difficulty of breathing on exercise, which so frequently attends even the commencement of other species of consumption. There is often little or no pain; but in some cases, the patient is subject to a dull pain in the pit of the stomach, or pretty low down in the left side of the chest; more rarely the pain is in the same part on the right side. There is hardly ever a fixed pain high in the chest, except about the shoulders; there, it is not uncommon, and then it is frequently an uneasy sensation only, and a sense of oppression under the breast bone.

The patient sometimes complains of darting pains in various parts of the chest, and frequently in more distant parts, particularly in the back and shoulders, and in the legs, and is often subject to headach. The hectic fever is hardly ever form-

ed at so early a period as in other species of consumption, and the fits are not so regular; besides, the skin is generally dry in the morning, and the emaciation is seldom so rapid.

The patient is often distressed with flatulence, acidity, and irregular bowels; the tongue is furred; the appetite, for the most part, contrary to what is usual in other forms of the disease, much impaired. Sometimes there is a false appetite, which fails after a few mouthfuls, and a sense of oppression after eating, as if there were not room for what had been taken.

The discharge from the bowels is seldom well coloured, and the pit of the stomach is more or less full and tender on pressure. In addition to these, some other of the more prominent consequences of severe affection of the digestive organs, sometimes show themselves, particularly dropsy of the belly, which never supervene in other species of consumption. [The Doctor furnishes proof here, that the liver is the seat of the disease, as before remarked.]

In treating this species of consumption, our attention should first be directed to the diet of the patient, and every thing difficult of digestion should be strictly prohibited. The patient should eat but little at a time; and frictions should be used with the hand or brush, over the region of the stomach, after each meal. Frictions with salt, have also been highly recommended. The best medicine to correct this deranged state of the digestive organs, is the blue pill of mercury, given in doses of one or two grains, with half the quantity of ipecacuanhæ and rhubarb, and repeated two or three times a day, in order to keep the bowels a little laxative. Some gentle tonic, such as infusion of gentian, and quassia, chammomile flowers, or cold infusion of wild cherry tree bark, provided the pain or febrile symptoms should not forbid it. In fact, the remedies for this species of consumption are such as are best calculated to cure dyspepsia or indigestion; taking care always to adapt them to the state of the patient.—[In other words, to cure a chronic affection of the liver.]

There is another species of this disease, called *Galloping Consumption*, and generally succeeds severe inflammation of the mucus membrane of the lungs; and it is astonishing what quan-

ties of mucus, and sometimes even purulent matter, are secreted in a short time. Unless this excessive secretion is quickly arrested, the patient's strength becomes exhausted: a train of fatal symptoms follow, and life is hurried to a close.

I have had considerable practice in this disease: and recommend with great confidence, pills composed of sulphate of iron (copperas) one grain, rhubarb one grain, gum myrrh two grains, oil of cloves one drop. These pills should be repeated three or four times a day, and ten or fifteen drops of sulphuric acid taken every two or three hours in a cup of mucilage, or barley water, when the febrile symptoms are urgent. I have some times used with advantage pills composed of sulphate of copper (blue vitriol) one grain, ipecacuanhæ one grain, made into a pill, and repeated every three hours.

[I would by no means recommend a reliance solely on Doctor Hunt's prescriptions. I can have no doubt but that the determination to the lungs ought to be relieved by more powerful means. Large blisters ought to be kept discharging from the sides. All the extremities should be daily rubbed until soreness is excited. I would have them at least reddened continually by some irritating application: and I know of none better than applying a large blister for an hour to part of the body. It should not be kept on to blister: but merely to excite a little soreness on the skin, which is to be kept up. Perhaps rubbing with powdered Spanish flies would answer.]

In the advanced, or typhus stage of consumption, the patient is much distressed, and weakened by excessive sweating during the night. These should be checked and counteracted by the following remedies: Fifteen drops of sulphuric acid in two or three ounces of a simple infusion of red rose leaves, may be taken in the form of a draught, three or four times a day, and two or three pills, consisting each of one grain of sulphate of iron, (copperas) two grains of myrrh, and half a grain of rhubarb; infusion of wild cherry tree bark, made with cold water; tar water, chammomile tea, Fowler's solution of arsenic; the Peruvian bark, are all good tonics in this stage of the disease;

but in administering these medicines, great regard should always be paid to their effects, and whenever any unpleasant symptom is excited, the medicine should be abandoned and some other tonic substituted, and tried at first during the morning remissions of the fever.

A purging is another troublesome and exhausting affection attendant on an advanced stage of consumption, and is very apt to alternate with profuse sweating; for as soon as the one is stopped, the other too frequently comes on, producing thereby an extreme degree of emaciation and debility. Here it will be necessary to use opium united with a small portion of ipecacuanhæ or sugar of lead, if the complaint is obstinate. An infusion of galls, or tormentil root with cinnamon and gum arabic, are also important remedies in checking the purging. The strength of the patient should always be supported by cordial drinks, jellies, and nourishing diet—the preparations of arrow root, sago and rice, are very proper. About this stage of the disease, it is not unusual for the mouth and throat, and indeed the whole alimentary canal, to be occupied with little sores like those of the thrush. Astringent gargles, aided by tonic and astringent medicines, are the only means of affording any relief in these affections; and most generally when these symptoms do occur the patient survives but a short time.

PARTICULAR INFLAMMATIONS,

ATTENDED

WITH FEVER.

These are to be treated in general according to the principles detailed in the treatment of general inflammation, in the beginning of this address, to which you should refer. It only therefore remains for me to state some peculiarities requisite in the treatment of several inflammations.

INFLAMMATION OF THE BRAIN.

This is produced by all causes which tend to excite apoplexy, or fulness of the head—and by none more than exposure to the rays of a hot sun. Its characteristics are violent fever, severe pain in the head, redness of the face and eyes, great intolerance of light and sound, watchfulness, and delirium. It is usually preceded by long continued watching, pains in the neck and crown of the head, defect of memory, diminution of urine, and irregular pulse. As the disease advances, the eyes sparkle greatly, there is ferocity in the countenance, restlessness, deafness, roivings, and increased pulsation in the arteries of the neck and temples. The tongue is dry and of a yellow or black colour, the face of a deep red, and the pulse becomes small, quick and hard. It is always a most alarming disease, and often terminates fatally about the third or seventh day.

The patient is to be bled most profusely: and it ought to be done, if practicable, while he is sitting up, and the blood taken from a large opening. It is best to bleed from the veins of the neck and temporal arteries. Thirty or forty ounces of blood taken away suddenly, is found to be more efficacious than double the quantity slowly drawn. Bleeding by cupping the temples, and indeed cupping the whole head, must be tried, especially if the general system seems much reduced by the general bleeding. Over the head, in the first instance, cold applications of iced water, are to be made and renewed frequently. The most powerful purgatives are to be administered: and injections of ten or fifteen grains of tartar emetic should be given daily, so long as the symptoms continue violent. Doses of tartar should be given by the mouth, if the injections do not purge. The patient's head should be kept as elevated as possible, to lessen the determination of blood to it: and the same effect will be produced by partially scalding the feet, and by blistering the arms and legs—but these are only to be applied after the violent action is reduced. When the fever subsides, and the mind returns to reason, it will be very necessary to ob-

serve the utmost caution respecting all exciting causes: as when the inflammation has once been excited, slight causes bring it on again.

The diet and drinks are to be of the mildest kind. Light should be excluded, and indeed every thing which can excite the system, particularly a hot room and foul air.

Some have recommended the application of a blister over the head; others have found injury from it, and prefer the cold applications of vinegar and iced water, and of ether to produce cold by evaporation.

In inflammation of the brain arising from sympathy with affections of other parts, the remedies are not to be applied with such vigour as when the disease is original: nor should they prevent a proper attention to cure the primary affection.

VIOLENT INFLAMMATIONS WITHIN THE CHEST;

CALLED

PLEURISY, BASTARD PLEURISY, &c.

In the treatment of inflammations within the breast, it is not very material to determine what particular part is attacked, although different names are given when different parts are supposed to be the seat of the disease. Generally but one side at a time is inflamed; and pleurisy comes on with an acute pain in the part, which is much increased on making a full inspiration. The face is flushed; the heat of the whole body increased; there is difficulty in laying on one side; the cough is short and suppressed and dry—but a mucus is occasionally spit up from the lungs occasionally thin, but gradually thickening and sometimes streaked with blood: the pulse is hard, strong, and frequent, and vibrates like a tense string of a musical instrument: and the blood when drawn exhibits the sily or buffy coat.

The causes of pleuretic attacks, are those which produce all other inflammations, but they are most frequently produced by breathing a warm after that of a cold air—like inflammations

of the extremities when brought suddenly to the fire after exposure to cold. The winter and the spring are most common seasons of attack.

The termination of the inflammation is in its dispersion, called resolution; in the effusion and discharge of blood, or secretion of mucus; in the formation of matter in a cavity, called abscess; and occasionally in the mortification of the part inflamed. It should always, like all attacks of such vital parts, be considered very dangerous and requiring most energetic treatment in the commencement, to avoid sudden death or lingering disease.

Cold, in most inflammations, is an important means of cure: but in this it is so much the reverse, that the patient should always be kept in a warm, comfortable apartment. Being placed in such a one, the first step is to bleed profusely. The quantity drawn should be in proportion to the urgency of the symptoms and constitution of the patient; but if called early, you will never err in the beginning if you will set the patient up in bed, and take blood from a large orifice until fainting is produced, or the pulse sinks. When he is recovered from this sinking state, give three or four grains of calomel combined with half a grain of tartar emetic, or three grains of antimonial or James's powder, and repeat this dose every three hours, until a free operation is produced on the stomach and bowels. In order to promote perspiration, the patient should drink freely of warm barley water, flax seed tea, or some other warm mucilaginous drink. If these powders do not operate freely on the bowels, they should be followed by a dose of epsom or glauber salts, or castor oil and clysters. This disease is frequently accompanied with strong bilious symptoms: therefore in applying our remedies, a due regard should always be paid to the symptoms. In every fit of this fever, if there be much pain, difficulty of breathing, or a short, suppressed cough; bleeding should be repeated, and followed by the powders of calomel and tartar emetic, or powders composed of a quarter or half a grain of tartar emetic, with ten grains of nitre, mixed in a cup of warm barley water, or flaxseed tea, and repeated every two or three hours. In making choice of these powders,

you should always be governed by the state of the bowels. After this bleeding and purging, very large blisters may always be applied with advantage to the side or breast, and repeated, from time to time, until all pain, or uneasiness is removed. When the inflammatory symptoms have greatly subsided, we may depend chiefly on sweating medicines, with warm mucilaginous drinks, taking care that the bowels are kept in a laxative state. When the disease shows a disposition to pass off, by expectoration, we should endeavour to encourage this tendency, by giving a tea, made of one ounce of pleurisy root, or by giving a decoction of Seneka snake root with gum arabic, and some antimonial medicine. During the whole course of this disease, the patient should abstain from all solid food, as well as every other article of diet, which may be calculated to excite the system in the slightest degree, his drinks should always be warm, mild and mucilaginous. These with frequent inhaling of the vapour of warm water and milk, will promote expectoration.—[*Dr. Hunt.*]

INFLAMMATION OF THE HEART.

This disease is accompanied with fever, pain in the region of the heart, anxiety, difficulty of breathing, cough, unequal pulse, and sometimes fainting.

Inflammation of the heart, arises generally from the same causes, that produce other pleurisy, and particularly from an irregular exposure to cold. Sometimes it is occasioned by a sudden translation of gouty or rheumatick action to the heart.

In the acute stage of this disease, great energy and promptitude are required in the application of the remedies. Blood should be taken from a large orifice, and the quantity drawn, should be as free as the age and constitution of the patient will permit: indeed, a successful practice in this disease, depends chiefly, on prompt and copious abstractions of blood: extensive blisters, purging, and sweating, by frequent doses of calomel and tartar, are powerful auxiliaries. Tincture of foxglove, in doses of twenty or thirty drops, repeated every three

or four hours, will tend to reduce the violent action of the heart, and it should be tried. Rest, and spare diet, should also be particularly enforced.

When this disease arises from gout or rheumatism, the same remedies are proper, but not to such an extent. It may be expedient in such cases, to give medicine to act on the stomach, as the spirit of camphor or tincture of meadow saffron: especially, if the constitution of the patient is enfeebled, which is often the case.—[*Dr. Hunt.*]

INFLAMMATION OF THE STOMACH.

This disease is distinguished from all others, by the violent burning, pain, heat, distension, and soreness in the region of the stomach; by the increase of pain when any thing is swallowed, and its immediate rejection; and by the sudden and greater depression of strength in this, than in any other disorder. It is accompanied with distressing thirst, anxiety, and continual tossing of the body.

It is excited by any acrid, corrosive matter taken into the stomach; by improper food, and over-drinking, especially when the body is heated; by external violence from wounds and blows, and by the translation of morbid actions from other parts, as in the gout.

This disease is rare, and of doubtful termination. The cure is to be attempted by large bleedings in the beginning—not to be prevented by the smallness of the pulse, the debility or the convulsions which may ensue. The evacuation ought to be repeated three or four times a day, until the inflammation subsides; and with no less energy should you cup the whole belly, and apply a large blister on it. An injection of three grains of tartar emetic may be tried, to determine to the skin; also, vapour bath. The only drinks which should be taken are those of the mild, mucilaginous kind, or sweet oil, which tends to allay inflammation. I have no authority for it; but I would venture to administer occasionally a weak solution of sugar of

lead, to subdue the inflammation; as I see no reason why it should not do in the stomach what it does elsewhere.

INFLAMMATION OF THE INTESTINES.

Pungent pain in the belly, spreading and acute around the navel, sickness and vomiting, costiveness and fever, mark this disease. It is attended with all the ordinary symptoms of fever, thirst, &c.; the pulse is quick, hard and small. After a short time, the pain becomes more severe; the whole region over the belly is highly painful to the touch; great costiveness prevails, and the urine is voided with great difficulty and pain.

The disease is excited by causes similar to those producing inflammation of the stomach, and it is attended with danger nearly as great. The cure is to be conducted on the same principles. After the repeated sudden drawing of blood from the arm through a large orifice, cupping on the back and belly, or applying leeches to the belly, and a large blister over it; we may apply cloths from hot water to it; and, if the stomach will bear it, administer a purgative of castor oil or calomel. The mildest mucilaginous drinks only should be taken throughout the complaint.

Such are the ordinary directions for treating this disease. I would try doses of sweet oil, and sugar of lead, as with the stomach; also, injections of cold lead water, which, on very rational principles, would surely tend to reduce the high action.

This disease is very apt to recur in the same person after it has been cured. This requires, therefore, that the person who has fortunately escaped its attack, should be cautious about his diet, selecting the most simple articles, and those known best to agree with his constitution. He should always have his skin well rubbed, and wear flannel next to it.

INFLAMMATION OF THE LIVER.

The characteristics of this are fever; distension of the right side, a little under and below the ribs; sometimes severe pain,

as in pleurisy, increased on pressing the part; sometimes dull pain about the collar bone and right shoulder; uneasy lying on the left side; difficult breathing; dry cough; vomiting of bilious matter; and frequently some degree of jaundice.

Of this disease there are two kinds: the one acute, shewing all the symptoms of violent inflammation; the other chronic, of a less active nature, but with an enlargement and hardness of the liver, with a blunt kind of pain.

The acute species of the inflammation of the liver, comes on with a sense of chilliness and pain in the right side, sometimes dull, sometimes sharp, and extending, &c. as above described. The intestines are generally inactive, and the stools show a deficiency of bile; the urine is of a deep saffron colour, and small in quantity; there is a loss of appetite; great thirst, with a strong, hard, and frequent pulse, beating from ninety to one hundred in a minute, and sometimes intermitting; the skin is hot and dry, and the tongue covered with a white and sometimes yellowish fur; and when the disease has continued for some days, the skin and eyes become tinged with a deep yellow, particularly if the disease be in consequence of bilious stones in the canals, carrying the bile to the bowels. The appearance of the blood is somewhat remarkable just before it coagulates, when the red part falling to the bottom, and the buffy coat not being formed, it appears of a dull green colour: and when the coat is formed, it is not green, but yellow. There is in this, as in all other diseases—the description of which can only be general—very considerable variations. The acute inflammation is said to be chiefly of the membrane covering the liver; the chronic, the substance of that organ.

The chronic species is usually accompanied with a morbid complexion, decay of appetite, despondency of mind, headach or giddiness, general weakness, a morbid sensibility of the nervous system, costiveness, indigestion, flatulency, acidity, pains in the stomach, yellow tinge of the skin and eyes, clay-coloured stools, high coloured urine, depositing a red sediment and ropy mucus, an obtuse pain in the region of the liver extending to the shoulder, together with a sense of weight, unusual fulness, some enlargement and hardness of the liver, not unfrequently

with a slight difficulty of breathing. These symptoms are, however, often so mild and insignificant as to pass almost unnoticed until the disease has affected the bowels and skin.

The disease is produced by all causes, so often enumerated, which excite inflammation: but the chronic more especially by the use of spirituous liquors, by residence in hot climates, and by intermittent fevers long continued. The outlet of the lives of most of the intemperate can fairly be traced to the liver; and I have seldom known a man who had resided long in the East or West Indies, who did not early on his return to this country, fall a victim to the derangement of this organ. It is said that the climate of those countries causes the diseases to locate themselves as frequently in the liver, as that of England does on the lungs. Our own country partakes of the two, probably, in equal proportion.

The termination of this inflammation is like that of others: but most commonly in the formation of matter in an abscess, which has to be discharged; or in its schirosity, producing dropsy of the belly and disorder in all its contents.

During the active stage of this complaint, the only chance of preventing the formation of matter is to bleed freely again and again, and so long as the symptoms shall be violent; and the remedy equally wanted, is powerful and constant purging until the same effect is produced. Calomel and jalap may be changed for other purgatives occasionally. Cupping freely and daily over the liver, will also tend to draw off the blood from the interior. A large blister over the liver, will also prove highly beneficial on the same principle. And small doses of tartar, as in other fevers of this grade, will be proper. The diet is to be the mildest vegetable matter; the drinks, any weakly acidulated water. The air to be cool and pure, and rest strictly enjoined. The warm bath, rubbing the skin whilst in it, is also to be tried.

If the energetic means recommended, be not crowned with success, as if they were not early applied, it is proper to attempt to excite salivation. Mercury has been emphatically called the key to the liver, so powerful is it in the correction of its disorders. It is adviseable to begin as soon as the first or

most active stage is over or reduced, and generally it may be commenced about the fifth day of the disease. I have no authority for it; yet I would, at least to my own patient, first prescribe the temporary salivation, by taking a grain and a half of corrosive sublimate at bed time, which, while it evacuated the mouth, might tend to relieve the liver.

The plan ordinarily pursued is about a drachm of the mercurial ointment over the region of the liver, every night until some slight salivation is produced, or rather until some very obvious effect is produced on the constitution. The friction over the liver is supposed to aid in dispersing its enlargement. But if it should give pain, the mercury may be rubbed on the interior of the thighs and arms.

Should it be adviseable to hasten the mercurial action, calomel may be given two or three times a day, in doses of one or two grains, at least enough to keep the bowels well opened. The blue pill of the shops, may be substituted for calomel, if it operates too much on the bowels; or a little opium occasionally, with antimony, if the fever be considerable, may be given.

When matter, or a cavity called abscess, is formed in the liver, the patient's strength will lessen; and Dr. Thomas advises the administration of bark and nitre, with nutritious and moderately stimulating diet. To favour the discharge of the matter externally, a large soft poultice should be kept constantly applied to the part affected. When the tumour points outwards, and there is reason to believe matter is formed, it is to be opened and the cure conducted by a surgeon.

The cure in chronic inflammation of the liver, is effected by mercury. It is to be given in small doses, and slowly, so as to keep up the mercurial taste in the mouth for a considerable time, without producing much flow of spittle; (see salivation) as in this way it promotes the secretion of bile and gives action to all the small vessels.

During the cure, the bowels are to be kept in regular daily motion. The skin should be kept in as natural a state as possible. It should be gently rubbed every night, particularly over the liver, and flannel should be worn next it. The warm bath will be proper, if used with such caution as to prevent getting

cold. When there is much pain about the liver, blisters may be frequently applied over it, and cupping without scarifications can never do harm; and I believe the more frequently it is used—within reasonable bounds of course—the better. Dr. Thomas recommends a large plaster of gum ammoniac to be spread over the whole diseased surface, which acts medically, and on the principle of a bandage giving support. Why would not a well-applied bandage, or broad belt, be of service, as in other enlarged parts, by producing compression?

The nitric acid, diluted in water and sweetened so as to be palatable, has been very highly commended for its effects in relieving the liver. Indeed some prefer it to mercury. I have had considerable experience of its efficacy, and do certainly prefer it in general: as it acts as a tonic, and certainly when it fails to relieve the local disease, leaves the system in a better state to encounter the operation of mercury. A quart bottle of water made agreeably sour with it, is to be drank throughout the day, as when recommended to relieve the system from the effects of mercury.

Lately the *dandelion* has been recommended in these cases by Dr. Pemberton, of which I know nothing. Travelling, I am sure, would prove serviceable in such affections, as well as in consumption.

INFLAMMATION OF THE SPLEEN.

This organ is situated in the left side and is susceptible of considerable enlargement: when enlarged it forms the ague-cake, noted among those long having the ague and fever. When inflamed, it is attended by the usual symptoms of fever: with pain in the left side, extending through the region of the belly and into the left shoulder. The pains are increased on pressure, and a pulsation or throbbing may be perceived. The pulse on the left side is sometimes partially suppressed, and often intermittent, weak, and not quick. There is lassitude, loss of strength, watchfulness, sometimes delirium, vomiting of green bilious matter: a swelling in the region affected.

representing the form of the spleen: faintings: bleeding at the nose: but the most remarkable symptom which attends is the bloody vomiting—by some considered as peculiar, and called by the ancients *atra bilis*.

The disease is brought on by the ordinary exciting causes of fever: and those are most subject to it, who have had long continued intermittents as well as indurations of the liver.

The treatment, as in all such affections, is to reduce the too high action of the system by general evacuations. Local bleeding opposite, is proper, and also the application of large blisters. A mercurial course is recommended where the enlargement is of the chronic kind: also, one of nitric acid. Dr. Chs. Griffith recommends a trial.

INFLAMMATION OF THE KIDNEYS.

Of this there are two kinds, one arising from stones in the kidneys, to be considered under the head of gravel: the other from an inflammation of the outer coat of the kidneys.

This species of inflammation is distinguished from colic, by the pain being seated very far back: the urine being of a deep red colour, voided frequently and in small quantities; it may be known from rheumatism of the loins (*lumbago*), as there is no increase of pain on motion.

It may be distinguished from gravel in the kidneys, or stones coming from them, by the symptoms of fever accompanying or immediately following the attack of pain, and these continuing without any remarkable intermission; whereas when gravel is in the kidneys, one pain does not succeed another for a considerable time: in gravel, too, a numbness of the thigh and retraction of the testicle on the affected side, usually take place, with constant sickness at stomach and vomiting.

The causes of this inflammation are external blows, strains of the back, violent and severe exercise in riding or walking, exposure to cold, or stone in the kidneys. The gouty are very subject to this complaint: and so are those of full habits, much given to drinking too much spirit.

It is attended with a sharp pain on the affected side, extending along the canal to the bladder, called *ureta*. There is frequent desire to make water, with much difficulty in doing it; the body is costive, the skin dry and hot; the patient feels great uneasiness in endeavouring to walk, or set upright: he lies with most ease on the affected side, and is incommoded with sickness or vomiting.

The remedies are general blood-letting, to be carried as far as circumstances admit, and so to be repeated. Free cupping over the small of the back, is an important auxiliary. Then flannel cloths wrung out of hot water, or bladders with hot water, are to be applied to the small of the back, and a clyster given of hot water. The drinks should be warm, of any of the mild mucilaginous articles.

The bowels are to be kept open by doses of castor oil, calomel, or cream of tartar, as well as by clysters; and the patient may frequently be put in the warm bath, where his skin may be rubbed to increase the determination to it. Small doses of tartar emetic may be given at repeated intervals: and I would recommend injections of eight or ten grains twice a day, to moderate arterial action and determine to the fundament.

After the violence of the inflammation is reduced, to allay pain, opium may be taken and laudanum injected up the bowels.

A decoction of dried leaves of the peach tree, prepared and drank as for vomiting of blood, has been recommended in this disease.

When matter has been formed, and it is deposited from the urine on its standing, if the fever do not forbid, tonics and stimulants become proper. The *uva ursi*, in these cases, is esteemed by Dr. Thomas the best medicine.

INFLAMMATION OF THE BLADDER.

Tension and pain over the bones in front, a little above the penis, with a frequent desire to make water, difficulty in voiding it or total suppression, with constant inclination to stool, and general fever, are the symptoms of this disease.

It is mostly caused by too long retention of urine; a stone in the bladder; or may be produced by all the general causes exciting inflammation on sensible parts.

The remedy is to evacuate the patient by the lancet: to give small doses of tartar emetic and calomel: and to keep the patient in the warm bath. Cupping over the part will prove serviceable; and injections of warm water ought frequently to be made into the bladder. This removes the irritating urine, and tends to sooth the parts. After this washing is finished, I certainly would inject occasionally a very weak solution of cool lead water, to lessen the inflammation: at least, I have never heard of any thing better calculated for this object.

Blisters are improper; as they act particularly on the bladder, as frequently demonstrated in the suppression of urine by a blister plaster. But I see no reason why counter action on the surface may not be produced by other irritants: as a strong solution of corrosive sublimate, nitric acid, or any other article of the kind.

DIFFICULTY IN MAKING URINE—STRANGUARY.

Difficulty in making urine may arise from several causes; particularly the inflammation of the bladder, last treated of; an obstruction in the channel leading from it, called urethra, formed by a stricture or contraction, which is only to be relieved by surgical aid; and by the influence of Spanish flies on the system, whether applied externally or taken internally, producing what is called a stranguary.

This is to be relieved in men as in women, by large draughts of mucilaginous liquors; and if not, by an injection of starch and fifty or sixty drops of laudanum; thirty drops of the tincture of tobacco, given twice or thrice a day, has sometimes afforded relief.

SUPPRESSION OF URINE.

This may be brought on by inflammation of the urethra, obstructing the passage of urine, or by a spasm at the neck of the bladder. It is to be considered as a very dangerous disease: requiring very prompt and powerful means to prevent the over distension of the bladder, which must terminate fatally.

To obviate inflammation, very free bleeding and purging are necessary, and to an extent equal to the strength of the constitution; and cloths from hot water, applied to the pubes, will lessen the irritation. The same treatment answers for a spasmodic affection of the urethra, or neck of the bladder, impeding the passage of the urine. The bleeding should be so suddenly done, as to produce fainting, during which there is a general relaxation of all the muscles. This state is most effectually produced by keeping the patient in the warm bath for a length of time. The injection of sweet oil, or milk and water, up the urethra, has in some instances produced relief. Dr. Thomas recommends the exhibition of opium, not only by the mouth, but by injection with mild mucilaginous liquids to overcome the spasm. Throwing cold water on the belly and thighs has sometimes enabled persons to void their urine when other means failed.

All these means failing, we are then to try an injection of tobacco, made by between half and one drachm of tobacco infused a few minutes in boiling water. This is well ascertained to be the most effectual means of producing universal relaxation; for it speedily makes the patient become faint and sick, the pulse sinks, profuse perspiration ensues, and generally very soon the urine flows. The effects of tobacco in this way, are sometimes very dangerous; so that great caution is necessary, at least in its repetition.

Sometimes an injection of the decoction of tobacco up the urethra, has produced the relaxation of the parts. I would greatly prefer the decoction of the Jamestown weed, as it certainly produces a more speedy relaxation.

The muriated tincture of iron, is a remedy which has succeeded, when tobacco has failed. It has been given in doses of ten drops, every ten minutes, until some sensible effect was obtained. Six doses are said to be sufficient to effect the evacuation.

These remedies failing, the only chances of saving the life of the patient, rest in the capacity of the surgeon to introduce a catheter into the bladder; or failing in that, to puncture the bladder, for which it is presumable he will be qualified without my quoting an account of the manner and place of operating.

INABILITY TO RETAIN THE URINE.

This is a most unpleasant affection, rendering the patient very disagreeable; and it arises from a palsy of the muscle, which by its contraction in health retains the urine in the bladder, until the desire for evacuating it. The cause is generally excessive venery or use of spirituous liquors.

Mr. Charles Bell, a very distinguished surgeon of London, states that the reason children pass their urine in bed, is their sleeping on their backs instead of on their sides, as the occurrence only takes place when the child is in that position. The cure is therefore simple, consisting only in making the child sleep on the side or belly. He adds, that when a child wets the bed, it arises from a dream, excited by irritation of the sensible spot, a little behind and below the orifice of the bladder, by the urine resting there and stretching the bladder.

When an incontenance of urine prevails in consequence of weakness or relaxation of the parts: the cure is to be attempted by the general cold bath; but more particularly, by pouring cold water about and around the privates, every morning and night. Blisters between the fundament and privates, are proper; also tonic medicines. The uva ursi is advised, in doses, twenty or thirty grains, twice a day, with about half a pint of lime water after each dose. Electricity has done good. Ex-

ternal pressure by means of a suitable bandage in a line with the urethra, has been recommended as very serviceable.

When the disease cannot be cured, the men can wear some vessel adapted to the penis to receive the urine as it drops; and women can have a sponge so fastened as to answer the same purpose.

SWEET AND EXCESSIVE URINATION.

This disease is called *diabetes*; or I would call it a consumption in the kidneys, and in conformity to Dr. Rush's doctrines of that complaint, a constitutional affection: of which indeed, there can be no doubt, from the general symptoms. These are uneasiness and disinclination to motion, dryness and harshness of the skin, costiveness, great thirst, accompanied by a defect in the conversion of food into chyle and blood; gradual emaciation of the whole body, and a frequent discharge of urine, containing a large portion of sugar and other foreign matter, which is generally voided in quantities far exceeding the food and drinks taken by the patient.

The causes are too free use of diuretic medicines, intemperance in life, hard drinking, excess in venery, profuse evacuations, immoderate use of acid drinks, excessive labour, joined to a poor diet, depressing passions, or by any thing tending to produce general debility.

As in consumption, the secretory vessels have their state and actions changed, so in diabetes, the action and state of the vessels of the kidneys are modified in a different manner from natural: and of course when the blood is carried to them, it assumes different forms; and hence, different compounds are the result. On dissection, the morbid or diseased state in which these organs are formed, proves that their derangement is the cause of the deranged secretions.

It is contended by some, that the primary seat of the disease is in the stomach, proceeding from some morbid change in the natural powers of digestion, and conversion of food into chyle for supplies of blood. That the kidneys and other parts

of the system, as the head and skin, are affected secondarily, and by sympathy. That the affection of the stomach consists in an increased secretion of its juices as well as their corruption, and the cure is to be affected through this organ.

This disease comes on sometimes slowly, without any previous disorder: and now and then it rises to a considerable degree, and continues long, without being accompanied with evident disorder in any particular part of the system: the great thirst and voracious appetite which frequently occur in it, being often the only remarkable symptoms. Sometimes the disease is preceded by great disorder of the stomach—soon followed by extreme dryness of the skin, with a sense of weight in the kidneys and pain in the urinary passages: and there is an evident decline of all the natural functions of the body and energy of the mind;—the lungs become affected; there is great emaciation; pulse very variable; the feet become dropsical; an obscure fever prevails; and so on, till death terminates the derangement.

The urine, from being at first insipid, clear, and colourless; soon acquires a sweetish or saccharine taste: this being the leading characteristic of the disease in many cases.

The treatment of this disease, is conducted upon the principle of diverting the increased discharge to other parts, and afterwards of restoring the tone of the system, particularly of the kidneys. For the first object, emetics have been prescribed: and medicines to excite a determination to the skin; as tartar emetic, with opium and Dover's powders; the warm bath; flannel on the skin, with general and hard rubbing all over the body. Blisters have been recommended, to be applied on the small of the back and kept discharging for some time.

For the acidity of the stomach, lime water, chalk, or soda, may be occasionally taken: and tonic medicines—as iron, the astringent barks, &c.

The patient is to refrain from all strong drink: to eat no vegetables, living altogether on animal food; and take the utmost care to avoid cold exposures. I would advise not only the most hard and constant friction on the skin, but dry cupping from head to foot occasionally. Surely it is the most certain

mode of determining the action to the surface, so as to relieve that within and not weaken the patient. The feet should frequently be scalded as for whitlow; that is, dipped suddenly in and out of as hot water as can be borne.

On the other hand, in later times, some very important cures have been effected by frequent bleeding, and under circumstances of great prostration of strength. The bleedings should be small in the beginning: and, as repeated, increased in quantity. It ought not to prevent exciting irritation on the surface of the body, by frictions and cupping.

OF DROPSIES.

Dr. Rush very judiciously remarks upon this subject, that it is surprising it so long escaped observation, that too much action in the blood vessels was as frequently the cause of dropsies, as too little. He considers it, as he does consumption, a disease of the whole system, and arising from general debility.

There are three states of dropsy, most frequently occurring: The first is of the chest, in which art can seldom render service; the second is of the belly; and the third of the whole system. Deficient evacuations in fevers, and obstruction in the glands of the body, are the immediate causes of the disease.

The remedies depend on the state of the system, which is much more frequently inflammatory than was formerly supposed. Indeed, from whatever cause dropsy arises,—from relaxation or over action—the compression the effusion of water produces, as well as the stimulus applied to parts unaccustomed to it, must tend to produce an increased and over action.

The existence of general dropsy is ascertained by compressing a part with the point of the finger, which will leave a depression that will soon be filled up. The existence of dropsy in the belly is to be ascertained by hearing its fluctuations on shaking the body, or by patting one side of the belly when the hand is on the other side.

The most important remedy is bleeding, for which much is due to Dr. Rush. It should be renewed as often as high action

can be discovered in the pulse, and also when it is depressed, but raises on small bleedings.

Purging with large doses of jalap, calomel, gambage, and salts; vomiting with squills or tartar emetic; neutral salts, or two ounces of nitre in a quart of water, taken in a wine glass thrice a day, and an ounce of cream of tartar in half a gallon of water, drank in the day on an empty stomach; all medicines operating to increase the flow of urine, called diuretics, are used with advantage; the preference being given by many to the tincture of fox-glove. Sometimes hard labour, low diet, fasting, fear, making punctures to let out the water, and laying down, have effected cures in dropsies of high action.

Dropsies arising from the low, nervous state of the system, are relieved by stimulants, and most by those determining to the kidneys. Bitters and aromatic substances infused in wine, spirit or beer; acrid vegetables, as scurvy grass, horse radish, mustard, water cresses; opium, metallic tonics, the alkalies, squills, generous diet, copious draughts of cider and water, pressure from bandages, frictions by means of an oiled or dry hand, hot bathing, the cold bath, exercise, punctures in the body, have severally cured dropsies of low action.

It is impossible to give any positive directions for treating particular cases of this disease. I have only to recommend the ascertaining what is the state of the patient, and try the remedies for each state in moderation, and occasionally vary them, until you find one that will succeed. A mercurial course is always called for when the liver is diseased.

DROPSY OF THE BRAIN, COMMONLY CALLED WATER IN THE HEAD.

This is a disease almost peculiar to children; and it would have been classed in this work among their complaints, but from an accidental omission: although Dr. Thomas has arranged it among the diseases of adults.

It is brought on by exposure to the sun, and all causes which excite inflammation in the brain, or irritation in the bowels. It comes on in a very insidious manner, resembling

somewhat the approach of the very common fevers of children, and therefore requires great attention to discover its first symptoms; and it is the more important that this should be done, as when the disease is completely formed, the cure is very doubtful, although, in the commencement, it is quite otherwise.

In the first stage, it is an inflammation of the brain, with no peculiarities in appearance; but ends in the effusion of a watery fluid within the skull, and is often attended by a general and great enlargement of the whole head. One of the earliest symptoms of this complaint, is the child's being uneasy on raising its head from the pillow, and wishing to lie down immediately. Its first stage is marked by the symptoms of fever, such as sense of lassitude; aversion to motion; loss of appetite; hot, dry skin; flushing of the face; headach, particularly across the brow; throbbing of the temporal arteries; quickened pulse; aversion to light and sounds; interrupted sleep; starts and screams; sickness of stomach and vomiting; costiveness, and occasional convulsions.

The direct cause of the enlargement of the bones of the head is not known; but it occurs most frequently in rickety children: and it is ascertained lately, on the best authority, that a regular and equal compression on and around the whole skull, by a well applied bandage, prevents the enlargement, and often expedites the cure.

In the first stages, evacuations are to be made, to the extent that can be borne, by bleeding, particularly from the veins of the neck and arteries of the temples, and by scarifying and cupping the head and back along its bone, downwards. Cold applications should be made to the head, and kept on it. Large purges of calomel and jalap should be given, and repeated as long as symptoms of inflammation appear. Small doses of tartar emetic should also be given and repeated in like manner, and blisters kept discharging on the extremities. Injections may be made of tartar emetic, of four or five grains, to aid in diverting action from the brain; and it is recommended to irritate the nose to discharges by snuffing the powder of fox-glove, or snuff, with powdered Spanish flies,

When the disease subsides, every means are to be pursued to support the child's strength, by diet, tonics, and exercise, suitable to its age and degree of reduction, as is done in the recovering state from all fevers.

MADNESS, OR DERANGEMENT OF THE MIND.

Derangement of the mind, is sometimes hereditary in families, but more frequently it is the result of disease brought on by irregularities in the passions, by intemperance, and by sympathy of the brain with the diseases of other parts, especially with the stomach and womb.

In cases where it is hereditary in families, the chances of relief are so inconsiderable, that marriage ought to be prohibited to such persons, on account of themselves as well as their unhappy offspring.

In cases arising from other causes they can be relieved, most generally, by proper care and attention. And first, I have to remark, that the primary object you should have in view with such deranged persons, should be to confine them in places where they can do themselves and others no harm. The shameful neglect of this precaution, is annually followed by the commission of suicide, and the murder of some unsuspecting person, throughout the country. A decent respect of friends for the sufferer, and common humanity for others, should lead to effectual and instant measures to prevent a repetition of such scenes. The apparent meekness of the deranged, forms no excuse; for the changes to which they are liable, are too sudden to be guarded against.

The varieties of this disease, are almost as great as there are subjects of it, and all attempts to arrange them under particular classes, I consider as unnecessary, as they are erroneous.—The disease consists in a disordered action in the brain: and our remedies are for that, instead of the disordered intellect.—A restoration of the one, is followed by that of the other.

In order to prevent the violent action of the vessels of the brain from going to such an extent as to produce disorganiza-

tion, the most free bleeding is necessary from the veins of the neck, called the jugular veins, and from the temporal arteries. Shaving, cupping, and applying cloths wet with cold lead water on the head, are equally necessary during the violent stage.

Free purging with the largest doses of calomel, gamboge, jalap, or of any other strong purgative, should be given: and also small doses of tartar emetic, to keep up a constant sickness at stomach, and thereby lessen the general febrile action.

When the violence of the disease is lessened, the leading object is to excite action in other parts, to divert it from the brain. For this purpose, blisters back of the neck, and on the extremities, should be made to a considerable extent. In several instances, I applied blisters to the fundament, and blistering ointment to the very edges; which produced counter irritation that speedily relieved the brain; and at the same time injected fifteen grains of tartar emetic in a pint of water into the bowels. This means of relieving the head, I have thought would prove of great service. The mild warm bath, long continued, has a powerful tendency to allay irritation, and it should be tried to a great extent; at least, hot vapour or wet blankets can be readily continued on the patient.

When the disease arises from the stomach, vomits are found of great efficacy, as also large draughts of mucilaginous liquids. The blisters should be over the stomach, and the extremities be freely cupped. The diseases of the stomach, particularly of a chronic nature, I have elsewhere stated my belief, generally owe their origin to the liver: and that for its relief a mercurial course, or one of nitric acid, are chiefly to be relied on, with free and repeated cupping of the right side, and frictions on the skin.

When the disease arises from sympathy with the womb, its functions should be restored if they are deranged. An irritating injection of diluted tincture of Spanish flies, I would try. It is a new application in such cases, and its value not known. All the means mentioned under the head of suppressed menses, to which I refer you, are to be employed: and the excitement of the breasts to give milk, or to blister them, I know to be of

great efficacy in relieving the womb, and thereby it must relieve the brain.

The disease is sometimes periodical: and is to be relieved by revolutionizing the system, as mentioned under the head of epileptic fits, or ague and fever.

I have repeatedly stated that undisturbed rest is one of the most important means of allaying disordered action. In no case is it more important than in affections of the brain. If the patient will not remain quiet in a dark room, a straight waistcoat, as it is called, should be put on. To make one of these, nothing more is necessary than a piece of strong canvass to extend from the neck to the knees. It is to have sleeves in the inside, and to be laced behind. A good substitute, is strong linen wrapped around the body two or three times. Rest is necessary for the mind as well as body: therefore, silence and gentleness are necessary in all attendants.

In the disease called *low vapours*, or vulgarly termed *hipped*, the foundation is invariably, I believe, in the liver, acting on the stomach. The sensation in the stomach, is of a most horrid kind—analogueous to what follows intoxication. Instead of the ridicule so foolishly and frequently given to these sufferers, they should be salivated: take emetics, and then cordial stimulating drinks: They should have their skin well rubbed with coarse brushes: should travel as long journeys as are required for consumptive patients. They should have cheerful, not boisterously merry, company; for high excitements of mirth are followed by equal depression—and in none more than those labouring under this bodily infirmity.

Will it be necessary to remind you again, that when the system is reduced, when it is in a low state, depletion is improper? True, the bowels should be constantly kept open, and all other natural operations be promoted. But the diet should be nutritious and moderately stimulating. To produce irritation on the surface of the body, is the chief object in the medical treatment in such cases: and it should be done without producing evacuations; or, in other words, to irritate the skin without producing discharges.

In violent madness, the tincture of fox-glove has sometimes been found of service. I would recommend a trial of the salivation produced by corrosive sublimate, one and a half grains in a glass of spirit for several nights in succession. Upon the same principle, I would irritate the nose by causing the patient to snuff up Spanish flies, or powdered fox-glove; or I would try an occasional scarification in the parts most easily touched and irritated.

Notwithstanding that I have said it is a disease of the body and the vessels of the brain, we are not to forget that we can sometimes powerfully operate on the body through the mind. Hence new scenes sometimes produce a change. Regular bodily labour has sometimes had the same effect. In some instances, moderate punishment may be permitted—but given only by the sensible, not the passionate—the friend, free from anger, instead of the turbulent keeper. In short, the patient's particular prejudices should be consulted so far as they are not prejudicial; and on symptoms of recovery, there should be a gradual restoration to original habits, and those original circumstances which were not the cause of the insanity.

NIGHT MARE.

This is a partial derangement of the brain in sleep: and it most commonly attacks the indolent, and those eating unusually at night; which shows that it arises from sympathy with the stomach. The subject is here introduced to show the causes, that they may be guarded against. It is a most distressing complaint, attended with the most horrid dreams of dangers, of strangulation, and the like: and continues a little after the person wakes. It has led to the question, whether it were better to be a beggar all the day, and in dreams a king all the night; or a king all the day, and a beggar all the night. Those who value undisturbed repose, and dread much the affliction, will do well to take exercise freely, and live most regularly, at least for the half of the day preceding the night. It is a good precaution for those subject to the disease, to sleep with some

one to rouse them, on feeling their convulsive motions: for really they not very unfrequently end in death. On awakening, a glass of cordial may be given; but in full stomachs, a vomit is better.

KINGS EVIL.

This complaint is called *Scrofula*. It consists in hard indolent tumours, or lumps, of certain glands in various parts of the body, particularly the neck, behind the ears, and under the chin; which after a time suppurate, or, in common language, come to a head, and, discharging the contents, leave sores, from which, unlike from simple sores, there is discharged a white curdled matter, somewhat resembling the curd of milk. The first appearance of the disease, is usually between the third and seventh year; but it may arise at any age before puberty, after which, it seldom comes on. It is most apt to attack children having a tendency to rickets.

The disease is not contagious, but is hereditary, and is often received by the child from the parents. The child is not born with the disease; but receives an aptitude for it, to be excited by the exciting causes when they come into operation. The disposition or aptitude for this disease, as in others of the same class, sometimes does not appear in the immediate descendants of parents, but does in the second or third generation.

The lumps, or tumours, gradually enlarge, and become more viscid: the skin covering them, acquires a purple or dark looking colour, and, when much inflamed, form matter and discharge it through small holes: at first appearing somewhat like good matter; but it changes by degrees, and a white substance resembling the curd of milk, comes from them.

The tumours at the same time gradually subside, while the sores open more and spread unequally in various directions.—In time, some of them heal; but other tumours quickly form in different parts of the body, and proceed in the same slow manner as those first described.

In some cases, other parts of the body become affected: particularly the eyes and the joints, which last swell, and are excessively pained by the slightest motion. The swelling and pain continuing to increase, deep-seated sores are formed, the bones decay, hectic fever comes on, and death terminates the malady.

The cure of this disease is unquestionably very difficult. Its treatment is naturally divided into two periods. The first is that in which, without any local sore or other marked symptoms of disease, there is sufficient evidence of a scrofulous predisposition to it in the system. The other is that in which some local sore or other scrofulous symptoms appear, which may interfere with the treatment of the constitution.

The disease is promoted by the slow operation of a number of circumstances, which produce a gradual change in the constitution. Hence one of the first attempts to correct the system should be to change the circumstances of the patient—his residence, diet, and drinks. The languor and debility which prevail in this disease, indicate the necessity of wholesome air and nutritious diet. Wine will be proper when there is a want of tone in the stomach.

To ward off an attack of the disease in those showing a predisposition to it, it is adviseable that they should daily take moderate and regular exercise; continued so long as to dispose to rest without endangering fatigue. Rubbing the surface of the body every night and morning, will aid the effects of exercise. Bathing in sea or common salt water, is one of the most effectual preventives; it very frequently causes the dispersion of tumours already formed. Cold bathing, to be serviceable, should be followed by a general glow over the surface of the body: and the patient should feel cheerful, and a keen appetite. But if it be followed by shivering and drowsiness, it should not be continued. Warm bathing has sometimes proved serviceable when the cold disagreed: and its efficacy is increased by adding some stimulant substance to it. The clothing of scrofulous patients should always be comfortably warm, and flannel should be worn next the skin. Drinking a little sea water to

empty the bowels: or doses of neutral salts are necessary to keep the bowels open. All the articles under the head of alteratives should be tried in succession.

The muriate of barytes is a medicine said to have been given with success, in doses from three to ten drops twice a day, according to the age of the patient. By some, muriate of lime is recommended, as a medicine superior to this—about a drachm of the solution for adults, and thirty drops for children, given in water twice or thrice a day, will be proper doses. But others have found it of no service. The hemlock, given in doses as large as the constitution can bear, and continued for five or six weeks, has been deemed serviceable: also the fresh leaves of the tusselago or cat's foot, or a strong decoction of the dried leaves; lime water and the alkalies; the Peruvian and other tonic barks; a gentle mercurial course, are remedies occasionally of considerable efficacy.

Of the mineral tonics, iron, the sulphuric and nitric acids are esteemed the best. The mineral waters of the sulphurous and chalybeate class, may likewise prove serviceable. Arsenic has been employed with advantage, and has contributed greatly to the cure of scrofulous sores.

For the external remedies of scrofula, on the appearance of any tumour or the enlargement of the parts around joints; you are to endeavour to prevent its degenerating into the formation of matter. The proper applications are those of lead, crude sal ammoniac in solution, camphorated spirit, and oils: a mixture of fresh bile, plasters of soap, sea-water poultices, mercurial ointment, electricity, galvanism, poultices of the sea-tang, &c. are to be tried in succession. Bleeding from the tumours by leeches or cupping, is often serviceable in those cases where large glands lie near the surface, and are inflamed.

The application of blisters to glandular swellings, have often proved of service; giving to the parts a healthy action, or causing the dispersion of the tumours.

When attempts fail to disperse the scrofulous tumours, and a suppuration has commenced, it is adviseable to expedite it. For this purpose, poultices are generally injudicious. Washing the part with sea water or strong brine, is recommended.

The tumours should be dry cupped two or three times a day, and then warm poultices are found serviceable. When matter is formed, an opening with a lancet may be made for its discharge.

The sores, when there is much luxuriant growth, (proud flesh) should be sprinkled with red precipitate, verdigris, or burnt alum. When their action is languid, they may be stimulated by washes of crude sal ammoniac, corrosive sublimate, lunar caustic, or white vitriol; which last, from half to one drachm in a pint of water, is esteemed the best application by Dr. Goodlad.

The application of linen cloths dipped in cold sea or lime water, and renewed as they become dry with a plaster of lead ointment at night, is recommended. Such sores have been variously treated: a weak solution of nitric acid, in irritable sores a watery solution of opium, and then a solution of white vitriol, are recommended. An ounce of soda in a quart of water, used to make bread into a poultice, to be applied to ill-conditioned looking sores. One drachm of borax to one ounce of ointment of calamine, has often healed sores resisting other treatment. The solution of arsenic should be tried, internally administered.

RICKETS.

This disease, as the last, should have been treated of among those of children, although Dr. Thomas has not done so. The characteristic marks are an uncommon size of the head, swelling of the joints, flattened buttock, bending of the back bone, and of the long bones of the limbs, protuberance of the belly, and general emaciation. It has been sometimes supposed to be a hereditary disease; it most affects poor and profligate people: and it is most excited by cold and damp places of abode, by impure air, uncleanness, bad nursing, want of exercise, and general debility. It seldom appears before the ninth month, and seldom after the second year.

It usually comes on slowly: and the first appearances of it, are a flacidity of the flesh, emaciation of body, loss of colour in the cheeks, a slight swelling in the face. The head at the same time appears large, compared with the rest of the body, and the natural openings of the skull enlarge in infancy; the forehead becomes unusually prominent, and the neck very slender.—Teething is tardy, and the teeth apt to decay and fall out; the joints of the limbs enlarge, and the intermediate spaces between them, become smaller, flexible and distorted. With these symptoms, aversion to motion increases, and inability to walk ensues; stools become loose and the intellect fails, till fatuity is complete.

In some inland places—as in the interior of Switzerland, in Chinese Tartary, in the Pyrennes, and Leo Cevennes of France; this disease goes on to such an extent, as to reduce man to a state below the brutes of the higher order. It is called *Cretinism*: but varies from our rickets only in degree.

To cure the disease, we should invigorate the solids and promote digestion. For this purpose you must administer tonic medicines, in suitable doses; give wine, good diet, moderate exercise by carrying the child laying down, as standing up might increase the deformity; the shower bath, frictions on the skin with flannels, and a free, open, dry air. Occasional slight vomiting is of service, by agitating the contents of the belly, with all parts sympathising.

Sometimes the administration of lime water, and potash or soda, have proved of service. In this disease, however, the principal advantage, Dr. Thomas very truly says, is to be derived by general treatment: change of residence being not the least important. But as the poor cannot change their residence, their children, when labouring under it, should be made to live in the highest parts of their houses, which are to be kept well ventilated.

SCURVY.

The characteristics of this disease, are debility, bleeding of the gums; spots of different colours on the skin, for the most

part livid, particularly at the roots of the hairs; occurring in cold countries after living on unsound salted meat, with a deficiency of fresh vegetables. It most frequently affects sailors and persons excluded from fresh vegetables.

This disease comes on gradually with heaviness, weariness, unwillingness to move about, dejection of spirits, anxiety, oppression about the heart; the countenance becomes sallow and bloated; breathing is hurried on the slightest motion; the teeth become loose, the gums swelled and spongy, and bleed on the slightest touch; the breath is very offensive; livid spots appear on different parts of the body: and wounds long healed up, are apt to break out afresh; severe wandering pains are felt; particularly at night, the skin is dry, the urine small in quantity; the pulse small, frequent, and, towards the last, intermittent. At length, in its last stage, the joints swell and become stiff; emaciation becomes general; bleedings occur from the nose, ears and fundament; the stools are fœtid, and a purging comes on, which speedily closes the scene.

The treatment, when practicable, should be commenced by changing the diet: giving raw and fresh vegetables of all kinds, preferring those of an acid kind; and the fruits, lemons, limes, oranges, sorrel and the like, may be taken freely.

Mr. Patterson recommends the administration daily of one or two table spoonfuls, three or four times a day, of a solution nitre in vinegar, made with three or four ounces of nitre in a quart of vinegar; and this he also recommends as a proper wash for the sores occurring in this disease. Finely powdered bread charcoal, is a proper application for the mouth and gums; and some of it ought to be swallowed—two or three tea spoonfuls as many times a day: finely powdered, it is very good for the sores occurring in this complaint; and gargles of bark and astringent decoctions are proper. These sores are sometimes with advantage washed with lemon juice, or a tincture of myrrh and of bark in equal quantities, and then dressed with simple ointment. A paste of oatmeal, is highly recommended for such sores, after they are washed with a solution of the sugar of lead.

In the course of the disease, the bowels should be kept open; best done by tamarinds or cream of tartar. The skin should be kept dry by warm clothing and small doses of antimony.

To restore the strength of the system, a course of tonic medicines should be prescribed—such as bark, mineral acids, &c.: at the same time breathing a pure air, and doing all he can to promote general health.

JAUNDICE.

This disease is marked by a yellowness of the skin, particularly observable in the whites of the eyes; by a bitter taste in the mouth; a sense of pain or uneasiness in the right side; the excrement whitish, or clay coloured; and the urine obscurely red, tinging things dipped into it, of a yellowish colour. It is produced by an over-secretion of bile: but most commonly from obstructions in its passages to the bowels. Those exposed to the effects of a hot climate, to violent passions and fevers, and those freely drinking spirituous liquors, are most subject to this disease. It is produced, in short, by whatever affects the liver: and is followed by symptoms of disease in that organ, and by those affections following obstruction to the passage of the blood from the stomach and other parts concerned in the digestion of our food.

Small stones are sometimes formed in the duct which carries off the bile, and the jaundice from such a cause is difficult to cure. Vomiting in such cases, is proper; as well as occasional purging. When the symptoms of inflammation are considerable, bleeding is proper from the arm, and free cupping the right side. In general, the disease may safely be treated as recommended for chronic inflammation of the liver, by a continued course of mercury for five or six weeks; by the nitric acid, and frictions on the skin until it becomes sore; with exercise on horseback.

Large doses of soap; or, what is more agreeable, doses of the mild potash or soda, repeated three or four times a day, have been found of considerable efficacy, and should always be tried.

Doses of a mixture of sulphuric ether three parts and oil of turpentine two parts, in quantity about a desert spoonful, every morning, it is believed have destroyed the biliary stones.

For the distressing symptoms of pain and sickness at stomach and for costiveness, the ordinary remedies should be applied:—warm applications to the pit of the stomach, stomachic medicines, and laxative injections with small quantities of purging salts.

GRAVEL AND STONE.

This is an affection arising from the secretion of the urine, whereby matter is formed, which on being deposited and consolidated, forms the gravel or stone. The substance formed is an acid, called the uric acid. Those in the decline of, and who have led a sedentary, life, are most subject to this complaint; excepting children from infancy to about fifteen years. The poor of the male sex are most subject to it.

A fit of gravel is attended with a fixed pain in the loins, numbness of the thigh on the side affected, sickness at stomach and vomiting, and with difficulty in voiding water. As the irritating matter descends from the kidneys to the bladder, it is apt to produce excruciating pains, occasioning fainting. The deposite of reddish brown sand, resembling coffee grounds, from the urine on its becoming cold, will show the difference between this disease and an inflammation of the kidneys.—When gravel has once formed, it continues to increase by receiving on its surface new layers of the matter forming the stone.

The symptoms attending a stone in the bladder, are a frequent inclination to make water, which flows in a small quantity, is often suddenly interrupted, and is voided at the close with a pain in the head of the penis. The patient cannot bear any rough motion, and frequently has pain in the neck of the bladder, a disposition to stool, itching and uneasiness about the fundament, with numbness and a retraction of the testicles.

The gravel in females may often be relieved, by the introduction of a tube into the urethra, and keeping it there, gradually enlarging its size so that it dilates the parts, and may suffer the extraction of the stone.

In men, the operation for its extraction called *lithotomy*, is of a much more serious nature, and it is needless here to explain it. The palliative remedies, are those detailed under the heads of anti-acids, and anti-lithics, to which, I refer you. The medicines should be taken on an empty stomach long continued, and in large doses: the best alkalies, potash, and soda, in their mildest state, are generally proper; but of late small doses of magnesia have the preference.

During the fits of pain, occasioned by a stone in the bladder; it is adviseable to inject into the bladder warm water, to change the position of the stone and to allay irritation. The water should be slowly injected. The general warm bath should be tried to alleviate the pain; and bleeding is proper when there is danger of inflammation, as well as the mild, mucilaginous drinks. Opiates may be given, and also injected, to allay the irritation. Sometimes cold applications of snow or cold water, to the back, have done great service.

The diet should be of the mixed vegetable kind, and the drinks of soft water; acids are thought injurious. The following preparation has rendered good to many: take a handful of the garden leek, and a few sprigs of fennel, with two quarts of water, which is to be boiled half away, then strain it, and drink about a pint a day.

TETANUS CRAMP, OR LOCK-JAW.

This is an involuntary and almost constant contraction of several or all of the muscles of the body, while the senses remain perfect and entire. It is an original disease, or symptomatic of some wound. It attacks persons of all ages. The original chiefly occurs among children in warm climates. That which arises from wounds is common in all countries: and it is this of

which I shall write. It is most apt to occur after punctured or lacerated wounds.

In some instances, tetanus comes on suddenly, and with great violence: but generally its approaches are gradual; in which case a slight stiffness is at first perceived in the back part of the neck, which after a time increases considerably, and at length renders the motion of the head both difficult and painful. With the stiffness of the head, there is likewise an uneasy sensation at the root of the tongue; difficulty in swallowing; great tightness across the chest, with a pain at the breast bone, shooting to the back. A stiffness takes place in the jaws, which soon increases to such a degree, that the teeth are immoveably joined together.

The spasmodic cramp then increases, affecting other parts; causing the back to bend backwards: the muscles of the belly are contracted, and feel very hard; and the limbs are kept firmly extended; and at length it is the same with the neck and back,—so that all parts are immoveable.

The spasms, which at first occur every ten or fifteen minutes, besides being brought on by the slightest movements of the body and pressure on the belly, are in the advanced stages excited by the presentation of any substance to the lips, resembling the effects of canine madness. The disease is one of the most dangerous kind, and generally proves fatal when it arises from wounds. Nevertheless attempts to relieve should be made. Any foreign matter in the wound, is to be removed: the wound should be dilated, and dressed with the oil of turpentine, or blistering ointment, or any thing to excite it to the formation of matter, when warm poultices are to be applied to promote the discharge.

The following plans of treatment are recommended. The bowels are to be kept open by laxatives or injections. The patient should be stimulated by laudanum and wine in large doses, and increased in proportion to the urgency of the case: not regarding the quantity taken, but the effects produced; as in some instances the quantity given has been astonishingly great, before the convulsions were removed. Towards the decline of the disease, bark and wine are requisite: the excitement of a blis-

ter down from the neck along the back bone, by Spanish flies boiled in oil of turpentine, has been thought of great service: pouring a watery solution of opium or laudanum on the wound, and rubbing the body with the same—has been used with advantage. Some have as warmly recommended salivation as others have opposed it.

The warm bath has been found serviceable; but much more so, throwing a bucket of cold water on the patient every two hours, when he is to be wiped dry and returned to bed; but it is not to be repeated, unless followed by a glowing sense or reaction of the system.

Doses of ether, musk, camphor, and the tincture of Spanish flies, have been thought good: injections of five or six grains of tartar emetic, every two or four hours, I think might be of service; and the more so, as Dr. Thornton has found free purging efficacious.

When the patient cannot swallow and the front teeth will not admit of the administration of liquids, one or two teeth should be extracted to allow of its introduction.

To conclude this subject, I repeat that the stimulation by opium and wine, in the largest doses and frequently repeated, constitutes our best dependence in the treatment of this disease; with blistering all down the back bone, and using poultices wet with laudanum on the sores. Though I have seen all this done, and the patient expire drunk, profusely salivated, freely blistered, and drenched in cold water.

SORE LEGS.

The difficulty of curing sore legs, has been complained of by physicians in every country. Dr. Rush very judiciously remarks, that this difficulty is attributable to the indiscriminate mode of treating them, originating from a defect in a proper theory to explain them. He considers them as arising from general debility—operating on the whole constitution, but centering more particularly in the legs, in consequence of their remote situation from the heart, and the column of blood they

have to support, which overstretches the blood-vessels. The causes which induce them, act more or less on all parts of the body. Fevers and dysenteries often terminate critically in such affections; and consumption and apoplexy have often been preceded by the suppression of a habitual discharge from a sore leg. The remedies to cure them, are those which operate on the whole system, or only on the part affected.

Blood-letting is a remedy of great efficacy in all cases where the general system labours under fever; gentle purges, *nitre* in doses of fifteen or twenty grains, three or four times a day; a temperate diet; cool and pure air, and rest in a recumbent position.

The local remedies are, cold water to be poured on the leg; soft poultices of bread and milk, on the surfaces of which is to be put a little olive oil or mild lard; and when the inflammation subsides, strips of adhesive plaster so applied as to draw the sound edges of the sores together.

Above all, rest and a horizontal posture of the body are to be particularly enjoined.

In sore legs attended by too little general and local action, the strengthening medicines are to be given—as bark, mercury, iron, copper, and zinc, with a nutritious and moderately stimulating diet. The doses of these medicines are mentioned under the head of tonics. Rest and a recumbent posture, are not good in this species of sore legs.

Opium is not only useful in easing the pain of a sore leg, but co-operates with other cordial medicines in invigorating the whole system. Tight bandages from the toes up the leg, to support the vessels, are very proper in this state of the system. Red precipitate and blue vitriol have been used with success in stimulating the parts, and so have infusions of Peruvian and white oak barks, the water in which smiths cool their iron, lime water, bread dipped in a weak solution of green vitriol, rags wet with brandy or spirit, and so on.

It is of the utmost consequence, in the treatment of sore legs, to keep them clean by frequent dressings and washings. Dr. Rush further adds that the success of old women in treating such affections, is often derived from their great attention to

cleanliness, instead of any particular virtue in their applications. These local applications, however, sometimes succeed and sometimes fail; and hence it is requisite to try them in succession, until one is found to answer. Sores of other parts of the body, are to be similarly treated.

SORE EYES.

There are but few affections of the body, more difficult to relieve than sore eyes: or which are sometimes more singularly relieved by treatment apparently opposite to every principle in medicine.

It will be needless to make any observations upon such affections as require surgical operations. But it is of very great consequence to impress on your minds, the great importance of free evacuations when the part is inflamed. Attention to this subject would have saved the sight of many who have become blind. The cooling treatment should be carried to an extent equal to the degree of the inflammation. The general bleeding should be extensive, as well as cupping or applying leeches near the part. Sometimes the cutting of the blood-vessels, or the red lids, with the point of a lancet, has done great good. The patient should be freely purged: and his diet and drink of the least heating nature. He ought to be confined in the dark, and keep rags wet with a cold solution of lead water constantly on his eyes. It should be made not to smart. Dr. Dorsey recommends, as the best wash he has tried, the following: To four ounces of water add sugar of lead five grains, white vitriol three grains, and two drachms of laudanum; to which is sometimes added two ounces of vinegar. A similar solution of white vitriol, may be tried of greater strength. I have known poultices of rotten apple, and of scraped potatoes, when frequently renewed, to prove serviceable; as also applications of fresh sweet oil. The dropping a little molasses into the eyes has been found serviceable, where the inflammation had continued some time. The simple, lead, mercurial, and tar ointments have been applied to the lids with advantage; and

also the citron ointment. Washes of brandy or spirit and water, have occasionally proved serviceable. Tar water, a little weakened, is also frequently used in long continued affections of the kind. Dr. Physick recommends the eye to be shut, and all over and around it a blister plaster to be put: it should be made of the most adhesive ointment, and thin gauze put over it to prevent the flies from entering the eye. This is unquestionably an important remedy, in diverting inflammation from within. But sometimes it does not succeed; and it is recommended to speedily excite a salivation.

In the employment of eye water, rags wet with the fluid should be placed over the eye lids, which are occasionally to be opened to allow the liquid to come in contact with the ball of the eye.

It is scarcely necessary to observe that when inflammation arises from foreign bodies in the eye, they should be speedily extracted from them.

Vomiting by doses of tartar emetic, has been employed with great success by many in inflammation of the eyes. The powder of fox-glove snuffed up the nose, has been found very useful in producing a discharge from it, and thereby lessening the determination to the eyes. I suppose powdered Spanish flies also useful with snuff.

When the eyes secrete a matter which glues them together after sleep, their edges before sleeping should always be anointed with a little pure tallow or lead ointment.

When white specks have been formed on the eyes, after the entire subsidence of all inflammation, they have been removed by absorption, on the application from the blunt point of a feather, of a little beef or hogs' gall. The application of a little ether on the point of a cammel hair pencil, has produced the same effect, especially when the opaque speck proceeds from mechanical injury done to the eye.

SCIRRHUS AND CANCER.

Scirrhus, is a tumour in a part with little or no inflammation, often seated in glandular parts, as the breast of wo-

men and testicles of men; but occasionally affecting all parts. When it breaks out into a sore, it is called a cancer, the characteristics of which are, an uneven surface, rugged and painful edges; it spreads rapidly, discharges a thin, acid, offensive matter, that corrodes the neighbouring parts. It usually begins with a small snuffing in the part unaccompanied by pain or change in colour. It gradually increases in size and hardness, and in time, becomes most painful, as if sharp points were sticking in it. And then continuing, according to the constitution of the patient, it bursts, discharges its foetid matter, and progresses, until some vital parts are affected, which produces death.

Although scirrhus tumours, sometimes remain in an indolent state for years; I believe but little doubt is entertained, that the best practice is to have them early cut out, with a knife.—To ascertain if the tumour be really of this nature, a very experienced surgeon is necessary. The part affected, should never be compressed, by clothing—picking and handling are injurious. Applications of a cooling nature, may be tried, such as a solution of sugar of lead, half a drachm to the pint with a drachm of laudanum. The bowels should be kept in an open state, and stimulating drinks refrained from. Blood may be drawn near the diseased part by leeches or cupping.—Blisters on the tumour, when not discoloured and not inflamed, have been thought serviceable. The general warm bath, will be proper. To allay pain, opium may be administered internally. A course of mercury, *in the commencement* of the tumour, has been thought an important remedy, though injurious in the latter stage. The extract of hemlock, in pills, two grains, taken from one to ten times in twenty-four hours, until the head and stomach are affected, has been recommended in such indolent tumours: also the bella-donna and the hyoscyamus.

When the sore is formed, it may be washed with a very weak mixture of nitric acid in water, and dressed with finely powdered charcoal, to stop the offensive smell; the coal should be fresh, to act most effectually. The fomenting charcoal poultice, is sometimes preferred. To prevent the corrosion of

the surrounding parts, they should be frequently covered with lead or simple ointment. To arrest the pain, opium may be given internally, and a watery solution of this medicine applied to the sore, and kept on by cloths dipt in it. Poultices of henbane, night shade, and hemlock, are recommended; also of carrots.—Three drachms of borax in half a pint of water, has often proved a good wash for these sores; rags wet with it are constantly to be applied.

Corroding applications to eat out the cancer, as it is termed, have been occasionally found serviceable, and unquestionably the best of these are made of arsenic. Equal parts of white arsenic and flowers of sulphur, form a powerful application, which may be weakened by the addition of coal or meal. Two or three grains of arsenic with a drachm of calamine stone, and sprinkling a little of the powder to cover it every day, until it is removed, is esteemed a valuable application. Fowler's solution of arsenic, internally given, has been thought serviceable. A solution of muriated barytes, in doses from three to ten drops, twice a day, have been tried with advantage.

Several have highly recommended the applications of iron, in preference to all others: an ounce of the sulphate of iron, in a pint of water, or the acetate of iron, in solution, are to be applied to the sores, by folds of linen wet with them. The carbonate, arseniate, or phosphate of iron, made into paste by water, and applied over the sores, once in twenty four hours, are preparations recommended by Mr. Carmichael and Mr. Denman.

In every species of open cancer, the air should be excluded as much as possible; and therefore a covering of double oiled silk, may be put over the dressing.

A new mode, by pressure, has lately been tried with success, by Mr. S. Young, in the treatment of cancerous tumours and sores. It consists in the application of suitable plaster straps, of sheet lead, of various thickness, tin plates, linen in folds, and appropriate rollers. The degree of compression, is to be gradually increased. In cases of open cancer, the wound is to be filled with powdered chalk, and the surface well dusted with hair powder, after which the pressure is to be applied as in

cases of scirrhus tumours. The best straps, are those made of equal parts of common strengthening and soap plasters, mixed and spread rather thin on linen. The plaster should be uniformly smooth, and in the application of the straps, it is important there should be no wrinkles in the skin, that the pressure be equal, and no irregularly binding band be about the parts to affect the circulation.

RUPTURES.

This is an unnatural protrusion of some parts of the contents of the belly, generally the bowels; and its chief danger consists in pressing the part which protrudes, so as to produce mortification. The extent and danger of the disease increases with time: and it is apt to be brought on and augmented by any violent exertion.

The first impression I wish to make on this subject is, that all who have affections of this kind, should wear an instrument called a *truss*, to keep the bowels in the belly. The form of this depends on the part where the rupture is; and the instrument should be at first adapted to the part by a surgeon. One great precaution is, on applying the truss, the patient should lay down until his bowels go up, when the instrument is to be put on: and never should it be put on so as to compress the parts protruding, as it may produce the mortification it is designed to prevent.

The patient in laying down, should have his buttock elevated, if the rupture be about or below the groins. He might a little time be held on his head, if there be difficulty in reducing it. On using common, equal and continued compression with the hand, and finding it to fail, you may apply cloths taken from cold water. Ice has been used with advantage, when kept on for some time. This failing, he should be bled standing up, until he nearly faints, when the reduction may probably be effected. The warm bath continued one or two hours, has produced a similar relaxation. An injection of ten grains of tartar emetic, may be given to excite purging, as well as relax-

ation of the system. An injection of one drachm of tobacco, infused in a pint of boiling water for ten minutes, may be given one half at first, and in case of failure, the remainder in half an hour. Sometimes a weight equal to two pounds, of lead or iron, has been kept on the protruded part or tumour for some hours; and it has succeeded in causing its receding. Mortification is so apt to ensue in these cases, that I cannot urge you too strongly to call in early, the best surgical aid.

THE ITCH.

This is an affection of the skin, much favoured by cold, and filth, and propagated from one person to another, by coming in contact together, or sleeping in the foul clothes of those affected. It shows itself in small pimples about the fingers, wrists, hams and waist; which are small, and of a white colour, attended with a constant desire to scratch, greatest at night.

The disease is frequently cured by washing in strong lye. The ordinary applications are those of sulphur and mercury. Sulphur with hogs lard made into an ointment, has been frequently used; but this filthy preparation may be superceded by rubbing the dry sulphur on the skin for three or four nights, successively, and then washing well with strong soap suds. It is better to aid the operation by taking a tea spoonful of it in milk, two or three times a day.

Some give a preference to curing the itch, by rubbing mercurial ointment on the skin, every night for several nights.—The danger of salivation ought to banish this mode of treatment. When mercury is to be used, it is better to dissolve a drachm of corrosive sublimate, with twice the quantity of crude sal ammoniac in a quart bottle of water, and wash the parts where eruptions prevail night and morning, for three or four days.

An excellent ointment is made by a drachm of sulphuric acid rubbed up with two ounces of hogs lard. The disease may also be cured by the fumes of sulphur, made by burning sulphur on a hot iron, underneath a blanket which envelopes

the body—excepting the face. Decoctions of tobacco, have also succeeded when other means failed.

Slight purging ought to be made in curing this disease; and when the remedies are discontinued, there ought to be a general washing and change of all clothing.

RING WORM.

This shows itself in small red pimples, which break out in a circular form, and contain a thin irritating fluid. It increases to a great extent when neglected, and proves detrimental to the whole system, which in that state requires free and repeated purging, with change of diet and a course of sulphur.

The local applications for this affection are very various, and some of a trifling nature succeed when those thought best, fail. They may be such as are used for the itch. Thirty grains of corrosive sublimate in half a pint of spirit, makes a good wash: mercurial ointment; mustard; strong vinegar; common ink; the juice of our green walnut; a solution of borax in vinegar, as strong as it can be made; lime water; and strong lye, have severally been found efficacious.

BLOTCHED FACE.

When this arises from too high living, it can only be relieved by abstinence, and by a course of mercury when the liver is affected. Washes of strong solutions of sugar of lead, and of white vitriol; of decoctions of tobacco and Jamestown weed, have been found serviceable in lessening the red appearance.

The white pimples or bumps on the face, may be relieved by exercise on horseback, by frictions on the skin, occasional purging with neutral salts, and by washes of weak solutions of sugar of lead or white vitriol, and by low living. Great cleanliness and frequent bathing, may be considered as the most certain remedy for such affections, with frictions all over the surface of the body.

FAILING OF THE PALATE.

This is the vulgar term applied to the swelling of that part, back of the mouth, called the *uvula*; and is foolishly supposed to be connected with a lock of hair, which when pulled, is said to relieve the disease. The proper treatment is, to apply to the swollen part, a cold metallic body, as a spoon: a little red pepper and salt some use; but gargling the throat with a solution of sugar of lead, or white vitriol, or alum, or decoction of oak bark, will answer.

SWELLING FROM AIR IN THE BELLY.

This disease is termed tympany. It consists in a violent swelling of the bowels, or cavity of the belly, by wind. It comes on sometimes suddenly, sometimes slowly. The belly feels very elastic, and when pressed, suddenly regains its state; it sounds like a bladder distended with wind.

When the wind is confined in the bowels, it is to be evacuated by introducing a clyster pipe up the fundament and keeping it there for some time. A little ointment, or decoction of Jamestown weed, may be applied to the fundament, to produce a relaxation. The medicines mentioned under the head of carminatives, may be successively given; as also the stomachics, cordials, and tonics, unless fever prevails, which will require depletion,—warm bath, and purgatives.

Cold water or ice to the belly: frictions on its surface, of camphorated oils, of volatile linament, and the like, should be tried, with a decoction of tobacco. The last resource is tapping the belly to let out the air.

TUMOURS.

These are formed in all parts of the body, and their contents vary exceedingly, as do their size and rapidity of growth. It

is scarcely credible to what extent they enlarge, unless extirpated, or relieved by either of the following means:—blisters over and around them, to produce absorption; cold applications long continued; pouring cold water from a considerable height, out of a small spout: which last mode I have often known to effect their removal.

Warts are cured not so much by corrosives, as articles to irritate the surface and excite an over growth on the top, which produces death beneath, in the vessels unable to supply the demand for blood. Could not the same plan be adopted for other tumours? At least, I would think it worth the trial in cases where a surgical operation was rejected.

LEPROSY.

This consists in an eruption of copper-coloured spots, dispersed over various parts of the body, somewhat insensible, of a glossy and scaly appearance; thickening of the lobes of the ears; falling off of the hair; hoarseness of the voice; offensive breath, and sores in various parts. In some it is attended with the most inordinate desire for venery; so that Monsieur Sonnini states that in the island of Candia, he noticed at Canea, great numbers of lepers, both men and women, banished without the gates of the city, living in miserable hovels; where they abandoned themselves to the greatest excesses of voluptuous irritation. They were sometimes to be seen, satisfying their disgusting and impetuous lust in open day, by the sides of the roads leading to the town near which they lived. In other cases, the reverse of such desires takes place.

The cure is to be attempted by a vegetable diet, by free bathing, great cleanliness, and a course of medicines termed alteratives.

The disease is exceedingly rare in the United States; but is common in the West Indies; from whence it may be imported, as it is believed to be infectious, especially when the parties cohabit, or come in contact with the matter of the sores.

The alteratives most recommended, are a mercurial course; or long continued doses of arsenic, of iron and bark, of nitric acid. The sores may be dressed with ointment made of hogs lard and powdered charcoal, or mercurial ointment.

DISEASE OF THE HIP JOINT.

This disease most frequently attacks children. In its commencement it is very insidious; sometimes preceded by no pain; a slight weakness and some degree of limping generally attend; a loss of appetite and disinclination to motion are observed.—A pain in the knee is a common symptom: and this deceives the patient and his physician, who apply prescriptions to that part; having no suspicion that the hip is the seat of the disease.

In general, before the disease has made much progress, pain is felt near the affected joint, and the limb appears longer than the sound one, arising from the bending of the pelvis or bones about the hips. Pain is felt on pressing the parts around the joint. The disease gradually increases; the whole form of the hip is changed, and the natural roundness of the buttock is lost. When the patient attempts to walk, the weight of the body is sustained almost entirely by the sound limb; the knee is bent, the thigh is bent forwards, pain is felt in attempting to straighten the limb; matter is formed in the joint, the bones decay, new openings are formed for the matter, hectic fever comes on, and the patient gradually sinks.

The remedies, to be successful, Dr. Dorsey adds on this subject, must be active. The patient should be confined to bed if possible, a bandage around the limb should be applied to keep the muscles quiet: a purge should be given of fifteen grains of jalap and sixty of cream of tartar, every day or every other day; the dose to be increased if the purging is not free. The patient improves under this treatment, instead of becoming emaciated. The diet should be low, chiefly of vegetables.—At the same time, a blister about the size of the palm of the hand, over the joint, should be kept constantly running. When matter is formed, poultices should be applied to allay irritation, and the sores should be dressed with simple ointment.

WHITE SWELLING.

This affects the knee, the ankle, and elbow joints, most commonly occurring in those of scrofulous habits, and increased by rhumatic affections, neglect, or badly managed sprains.

The treatment is the same—perfect rest, low diet, purging, local bleeding by cupping and leeches: also blisters kept constantly discharging until the disease subsides. When the parts are violently inflamed, a poultice of bran and sweet oil, or flaxseed, around the joint will tend to lessen the irritation: cold lead water, or crude sal ammoniac one ounce in vinegar and water, alike one pint, on the inflamed parts, have a similar effect. Gentle frictions with the palm of the hand, may afford some relief.

HICCOUGH.

This is a convulsive operation of the membrane and fleshy part which separate the contents of the chest from those of the belly, having its origin in the stomach. Drinking two or three tumblers of cold water, a dose of magnesia or salt of tartar, a little vinegar and water, half a tea spoonful of ether in water, or news to excite astonishment or great surprise, have severally succeeded in removing this complaint.

STUNNING BLOWS ON THE HEAD.

The old manner of treating these, was to stimulate with wine and pungent articles. No practice more erroneous: because it has been found that the bruise is apt to be attended with effusion of blood underneath the skull. The proper application is a cold wet cloth to the part receiving the blow. The subsequent treatment, is anti-inflammatory; rest, purging, bleeding first a little, then a little more, and to be increased with the increase of inflammatory symptoms. Remember the precaution I gave you on the subject of wounds of the scalp:—it is better to live too low than too high.

COLD FEET.

With some, this is a very distressing complaint; and the only means I have known successfully applied, is to pour a picher of very cold water over the feet, wipe them dry, and then put on the stockings.

PLAITED HAIR.

This disease is a species of the *scald head*, termed *plica palanica*; very common among the peasantry in Poland and other interior parts of Europe. The hair is matted together, by the matter exuding underneath. The remedies are the same as for scald head: shaving the hair, close to the head, daily washing it in strong soap suds, lime water, or decoctions of tobacco; applying the ointment of Jamestown weed, or tar and mercurial ointment, to destroy the vermin. A blister may be applied to the back of the neck, and kept discharging for some time, when the disease has been of long standing. Purgatives should be given occasionally, to aid in lessening the determination to the head.

DIRT EATING.

This disease in some instances goes to a great extent, corrupting the whole of the bowels.

The corrections are a generous diet, of animal food, wine and other fermented liquors. Stomachic bitters, bark and iron, should be administered in suitable doses, to give tone to the system; aided by frictions on the skin and gentle exercise: and occasionally a vomit will prove of service in revolutionising the stomach. Those who have the disease, should not live on dirt floors, and should be watched while out.

APPENDIX.

Hints respecting the Treatment of Domestic Animals.

It will not require many words to communicate the important information I possess on this subject, in common with some others: but very much neglected by ninety-nine out of every hundred of the community. Two motives impel me to press the subject upon your attention. The first is a feeling of compassion for our shamefully abused animals; the second is a desire to promote your interests. I pray you not to estimate the value of the observations I have to make by their brevity: but by the spirit with which they are made, and the rationality of the advice.

•First, I wish to impress on you this most important fact, that your domestic animals—your horses and your cattle—are formed on the same principles, and their bodies governed by the same laws as your own. They are born with a capacity for life, called excitability.—Things operate on this capacity, called stimulants; and the effect of them is excitement, or all the characteristics of animation. As with you, so with them,—over stimulation exhausts the capacity: the want of stimulants, produces disease, either at the time of an acute nature, or afterwards of a chronic nature; making them, as the exposed over-worked labourers, “old in youth—blasted in their prime.”

The vicissitudes of climate destroy the constitutions of cattle, as they do those of men. Hence it is so rare for either to live in our country to a natural age; especially the former, so often cruelly exposed.

To the man who treats his favourite horse better than he does his fellow-being—his servant or slave; I need say but little. He should understand that the excitability of the animal is accumulated in his system, and that inconsiderable causes produce excessive and diseased action. Hence the numbers of such

pampered horses which die annually from violent inflammatory affections of the lungs, bowels and brain.

To the man who treats his horse worse than he would a beast of prey, by overworking, half feeding, and that irregularly: who exposes him to the hardships of a powerful sun, and a blood-freezing cold, all within a few months—I will say, that independent of his brutality, he is acting as foolish as the one who destroyed his goose yielding golden eggs, in order to grasp the whole.

In the name of common sense, let me entreat you to remember that the more you and your animal live in a state of nature, the longer will you live free from disease; and that your sense should be exercised, to counteract the irregularities of climate and the wants brought on by all artificial modes of living, instead of adding to the number.

As you do, your cattle require, regular exercise, rest, undisturbed sleep, pure air, and food properly administered; shelter from the excesses of heat and cold; a gradual change from all states to others.

You must have observed the excellent order of waggon and plough horses—daily worked, well fed, and nightly allowed to rest. And this undisputed fact, is enough without argument, to teach the propriety of the practice.

Of the air.—Our large animals breathe or require more of it than we do. Hence they should always have it pure: the more necessary as its impurities produce not only immediate, as well as chronic affections; but epidemical fevers with them, as it does with us. We know that all men live better in country than in towns. Nevertheless, the absurd practice prevails of flocking these creatures; of packing them together in barns, or stables: not only breathing each other's impure air; but the effluvia from their bodies, especially that from their urine and excrement. I have before stated my most anxious wish to demolish every large hospital, or receptacle of many of the poor. I have a feeling equally strong to destroy every stable in our country, where more than two horses or oxen could be confined together. There is but one proper mode to be adopted for shelter for these animals; and that is the most economical,

and the most improving to the animals, and to the land on which they are confined.

LET THEM BE CONFINED IN COARSE, ROUGH BOXES, OF SUITABLE SIZE, OPEN AT ONE END ENTIRELY, AT THE OTHER END PARTIALLY; SUCH AS ANY LABOURER COULD MAKE OF THE COARSEST MATERIALS; AND WHICH COULD NOT ALTOGETHER COST FIVE DOLLARS. I HAVE HAD THEM MADE FOR HALF THE MONEY ON MY FARM, WHERE PLANK IS CHEAP.

The generality of stalls for horses, are made three and a half feet wide, and eight feet in length; six feet in height, is sufficient,—one hundred feet answers for the sides, and half as much for the top and end. This can generally be bought for two dollars, and the box made for fifty cents more, using either nails or wooden pegs to connect the parts together. By this contrivance each horse is kept breathing a pure air. From its flat roof the rain will pass off sufficiently when it is placed on the side of a hill: on the south part of which, the inhabitant will be kept sufficiently warm in winter, and on the north sufficiently cool in summer, at least when the box is placed under the shade of a tree. But these are not all the advantages: it is known that in all barn yards the best part of the manure and all the urine, are washed away by the rains; the expense of removing the remainder is felt considerably by all who undertake it. Now these boxes can be removed every week or fortnight on good ground. The ground will be enriched by that which is lost in a barn yard, and the manure on the surface can be pitched to the next spot of earth. The horse may by this plan be constantly kept on pure earth; the only kind of floor proper for him to stand on, and the only one he does stand on in a state of nature. Persons I know are very apt to overrate their own suggestions; but indeed I do sincerely believe, after making the most impartial calculations on this subject, that the advantages derived from it would be immense, if only confined to the exemption from diseases, which it would secure to the stock of every description. What man so poor, that he could not provide such a contrivance for his cow? Animals kept

warm in winter, do not require half the food they consume while shivering from cold; and what numbers would be saved from the deaths brought on every spring on every farm, when the stock is without shelter. These countless deaths occurring in almost every place throughout the country, have their remote cause in the cold of winter. The warmth of the spring acts upon their accumulated excitability, caused by the absence of the stimulus of heat in the winter, producing disease—and the wonder is not why so many thousands perish, but why any escape.

I beseech you, on the score of humanity, of economy, of fertilizing your farm, of preserving your stock from disease and death, provide such a contrivance for every one of them. The cost cannot be more than I have estimated; but if five times the amount, you will in one year save its cost. It is as necessary for your sheep as your horses and cows. The diseases prevailing among and annually destroying the large flocks, show that they ought to be kept in more detached parties. They require a pure air, shelter from rain, and they can fertilize your soil proportionate to their consumption.

The next point to which I wish to turn your attention—is shelter from the sun. You see with what solicitude they avoid its rays; abandoning their food for the shade of a tree, during every hot summer's day. And it must be known to you, that thousands annually perish, in the field, and on the public roads, when forced to work, exposed to it. Humanity and interest alike, urge you to work them under shelter. Provide the cheapest materials, fifty cents' worth of coarse cotton, or patch up rags, and make a small sheet for the working animal. Let it be put on him, but not next his skin. Any one having the sense of the commonest man, can make some projecting points on the harness, to elevate the cloth nine or twelve inches from the hide of the animal. The motion of his body, the circulation of air kept up by the heat between his surface and the cloth, will cause an evaporation of moisture, which will keep the horse or ox most pleasantly cool: and either will thereby be enabled to do as much additional work in two days, as will pay for the contrivance.

The food is of next importance. Two things about this, are necessary. First, that it should afford nourishment: and next, the stimulous of distension. You should remember the experiment I mentioned respecting two similar animals equally fed: the one kept at rest, the other in motion; when, after a specified time, each one was killed, and their stomachs opened; the one confined was found to have digested his food—the other not at all. This important fact should teach you to give your horse grain only at night, that he may digest it well; taking sound sleep, which he requires as much as you. Let him have no hay at night, for he will be constantly mincing at it; but in the morning and middle of the day, give him any of what is called *long food*, to which he is accustomed. In two hours he will eat enough of such food, and more than he would have done all the night. Of this I have had ample experience.—Whilst making a most extensive journey, my horses were fed three times every day, and had hay at night; and they declined in flesh. On returning home, I pursued a different practice: gave them half a bushel of grain at night, without any hay; they slept well, and about eleven o'clock they were put to hay without grain. I travelled more than I did on going out; and my horses actually fattened on the way. The same experiment has been made by thousands, with like result; and whoever will observe this plan, will find his account in it: for it costs least money at taverns, and saves the dangers of foundering.

In addition to the times of feeding, the state of the food should be considered. It is stupid folly to give grain in its living state; that is, having the capacity of growing. The digestive powers of the most healthy animals are scarcely able to overcome its life, or digest it properly. Hence we see in every road and every barn yard, in the manure of the animals, whole and parts of grains, which had done those that swallowed it, no more good than so much gravel would. If you think it too much trouble to send your grain to mill, then destroy its life by soaking it in hot water until it swells and sprouts. It will make it yield much more nourishment, and the animal will be more healthy. The only trouble this plan will give you, will be that of getting out the grain two or three days before it is

wanted, and putting it in a tub of hot water, or in water exposed to the south sun.

It is a fact well ascertained, that food boiled unites to water, and makes the water enter into the nourishment of our bodies.

Hence, half a gallon of meal, boiled into mush with a gallon of water, will yield more support than three quarts of meal with the same quantity of water, taken separately. This ought to induce every one desirous of saving food, to boil it before giving it to stock.

The stomach of an animal accustomed to one kind of food, will not readily digest another; therefore all changes in diet, should be made gradually. You may have observed the abominable stench of the excrement of horses fed on new corn.—The same, more or less, takes place on all changes in his diet. His support and exemption from disease in his bowels, require all alterations in his diet to be made by degrees.

The dry feed for horses, I have found best, is wheat straw—far better than timothy or clover. But cows will eat any thing dry which they would green, if it be cured green. During a scarcity of food, this ought to be attended to. The leaves of green trees cured, I have found an excellent hay—as good as any I would wish for cattle. In the winter, you may have seen cattle eating the leaves of trees blown down in summer. Now, if these leaves, or small branches, be cut in summer and allowed to dry, they will devour them with much more facility. The leaves of the oak, the poplar, the willow, and peach tree, they generally prefer.

In fattening hogs, it is desirable to do it so that they will accumulate most fat at least expense. True the original flavour of the hog is not preserved; but people prefer the fat. Now to do this, the hog should be confined alone, where he can scarcely turn round. He should not be penned with others; for they exhaust themselves more or less with their mutual dissensions. And for his food, give dough of Indian meal, either boiled, or suffered to ferment for twelve or fifteen hours. I have added a little powdered charcoal with great advantage, in the way in which many fatten turkeys and geese. It is a fact, which any man who will make the trial will bear testimony to, that by

this plan, near one-half of the grain will be saved which is now consumed every fall in fattening pork. Within certain limits, the warmer the exposure for the hog, the quicker he will become fat.

All observations on this subject, are applicable to every species of animal on a farm. Give them clean apartments, fresh air, shelter from the extremes of weather, pure food regularly given in the most digestible state: and you will find it important, from the horse to the chicken.

DISEASES OF HORSES.

The diseases of this noble animal are like those of men, and require a similar treatment. Dr. Cooper, in referring to relieving their eyes, says would to God the farriers could be prevailed on to leave off their cruel practice of blowing pounded glass and stone into their eyes. With equal feeling, I pray that the masters, instead of their stupid and conceited ostlers, would undertake the cure of their disorders by exercising common sense on the occasion.

As in the diseases of men, there are a great variety of names given to those of horses: and just about with as little propriety in the one case as in the other. Let me tell you the truth—that there is a great resemblance in the diseases of ourselves and horses: and they are to be cured on the same principles.—The chief of their complaints, general and local, are of the inflammatory order, and commonly arise from their stomach and bowels: and the cure is to be effected by reducing the action of the system, by bleeding, clystering, purging and sweating, and low diet; by cold applications; and by producing counter irritation by blistering, rubbing, cupping, and burning. Their low action complaints require stimulants and tonics of spirit, assa-fœtida, and the astringent barks of oak, dogwood, and willow.

It is scarcely credible what ridiculous compounds are prescribed for horses and crammed down their throats every day. Pray let me entreat you to trust to none of these doses, or pre-

scribers. I will briefly detail all that ought ever to be done to a horse.

When he wants bleeding, any man of common sense can do it, with as much ease as any farrier. The operation is generally performed in the neck; but the same directions for it, are applicable to all parts where it is desirable to take blood. Apply a bandage around the part so that the vein shall swell.—With a razor shave the hair off the vein to be cut for about an inch and a half. With the same rasor, cut down through the skin and expose the blue vein for half an inch. Then with a common thumb lancet, or very sharp penknife, cut the vein open about as long as your nail, and have the blood caught to ascertain the quantity.

Cupping is an important remedy.—Shave the part, cut through the skin in many places about half an inch long, and each gash half an inch apart. Then apply a suitable mug or gourd, with a little burning spirit, over the part; which will extract the blood as the air is consumed by the burning body.

Blistering may always be done, by shaving the part and applying powdered Spanish flies boiled in oil of turpentine.—Hard rubbing all know frequently to be very efficacious; and very rarely burning may be done to produce counter irritation.

Horses may be purged by two ways: by pushing a ball down the throat, or giving a drench. The mode of giving drenches, is very improper as practised with bottles. The best way is to use a large clyster syringe, to hold out the tongue, and forcibly squirt the contents down the throat—very easily done and no ways dangerous. Clysters may be given in the same manner: for which a strong solution of tartar emetic will generally answer, with introducing the hand and arm up the fundament to aid in drawing out the contents.

To produce sweating by artificial means, it is best to confine the horse in a tight box, or have him well covered with cloths, entirely excluding the external air. A tub of water should be put under him, and red hot stones added to it until the steam is sufficiently hot to excite the sweating. Another mode is to cover him with a blanket dipped in hot water, to be renewed until the same effect is produced; and it may be effected by

keeping under cover standing on warm ground, from which the steam ascends.

If you wish to purge a horse, it cannot be very material what purgative it is done with.—A pound of Glauber salts, is as good as any: so is a pint of castor oil; of warm hogs lard, or of molasses. The addition of ten or fifteen grains of tartar emetic to each dose, will expedite and improve the operation. A ball made of an ounce of jalap, or of powdered aloes, or two drachms of gamboge—to either of which, add ten or fifteen grains of tartar emetic.

PARTICULAR DISEASES.

Of Fever, with or without local affections in the lungs or bowels.

Bleed freely in proportion to the apparent disease and frequency of the horse's pulse. In a natural state, it beats about forty strokes in a minute. The bleeding is to be repeated, as with a man under similar fevers. Give free and repeated purges—of which give a preference to salts and tartar emetic; and repeat, as you would the bleeding. Let the drink be warm water. Give injections of a drachm of tartar emetic, until an irritation is produced in the lower gut. If not soon relieved; try a sweat, as above proposed. If there be any part visibly affected: apply a large blister over, and as near to it as possible. Whenever the contents of the bowels are offensive to the smell, give powdered chalk in doses, of three or four ounces.

For a Cough.—In proportion to its degree—bleed, purge, and drench with flaxseed tea.

For a Flux.—Purge with castor oil, and add to it one drachm of calomel. Bleed if there be much pain and fever. Inject into the bowels one or two drachms of sugar of lead in a quart of water. Mix flaxseed with the food.

For a Founder.—This is nothing more than an inflammatory colic, arising from eating food, when the horse cannot digest it. The best remedies are to bleed freely—to give a drench of salts: to introduce the arm up the fundament to cleanse the and produce dilation. An injection may be given, of thir-

ty grains of tartar emetic in a pint of water. If the spasm is not relieved, an injection of a drachm of tobacco, may be tried in a pint of water. The practice most commonly pursued, is to produce a sweat, by the means pointed out before.

Over eating and distention of belly.—Horses sometimes over eat, and their bellies distend, in consequence of the grain fermenting in their stomachs and generating fixed air. The remedy is to inject the above decoction of tobacco; to drench freely with lime water, which will absorb the fixed air, or with common lye. Bleeding may be tried, till the horse is much weakened: and also the warm bath.

Of Worms.—Three kinds of worms are noticed:—The *bots*, a small worm with a big head near the fundament. The *truncheon*, short and thick with black head, is found in the maw: also the maw worm, in the same place, of a pale red colour, like the earth worm. Horses affected with worms, have their bellies a little swelled and hard—they will frequently stamp the ground, turn around to look at their sides, and strike the belly with their hind legs, and groan considerably. The remedy is to purge them freely; and the best mode is to do it, by giving a drachm of calomel, with four of jalap, repeating the dose every other day for three or four times. He should take the medicine on a fasting stomach. Thirty grains of turbith mineral; is also a good destroyer of worms; also a purge of an ounce of aloes.

Hide Bound.—This is generally known from the unhealthy look of the hair, and the adherence of the skin to the side. The disease arises from the stomach and bowels, and requires one or two purges with good sound food.

Lampas.—This is a swelling of the flesh immediately above the upper row of teeth. It is a common practice to burn or cut it out. It may be destroyed by an ounce of alum with as much white sugar, rubbed on the part two or three times a day, or by rubbing it with a mixture of half a pint of vinegar with an ounce of common salt—the same of the oils of turpentine and olive, to be rubbed on while warm, thrice a day.

Surfeit.—This is an eruption of the skin—scales and scabs, swelled legs, unhealthy looking hair, &c. It most commonly arises from food disordering the stomach. It is to be treat

